



QC Development

PO Box 916

Storrs, CT 06268

860-670-9068

Mark.Roberts@QCDevelopment.net

September 7, 2018

Melanie A. Bachman
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Notice of Exempt Modification – New Cingular Wireless PCS, LLC (AT&T) – CT2198
72 Boggy Hole Road, Old Lyme, CT 06371
N 41.32208056
W 72.30746111

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 145-foot level of the existing 175-foot Monopole Tower at 62-1 Boggy Hole Road, Old Lyme, CT (aka 72 Boggy Hole Road). The tower is owned by Wireless Solutions and property is owned by Michael W. Sanders. AT&T now intends to remove (3) existing antennas and replace them with (2) new Quintel QS66512-2 antennas and (1) Quintel QS46512-2 antenna. AT&T will also install (3) Ericsson RRUS-32 and (3) 4426-B66 Remote Radio Units (RRU). These Antennas and Remote Radio Units (RRU) will also be installed at the 145-foot level of the tower.

This facility was approved by the Siting Council in Docket # 209 on June 5, 2002. The Decision and Order included a tower height limit of 175 feet. Since no change is proposed to the overall tower height, this modification complies with the aforementioned approval.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Bonnie Reemsnyder, First Selectwoman of the Town of Old Lyme, as elected official and to the Old Lyme Planning and Zoning Department, as well as to the tower and property owner.

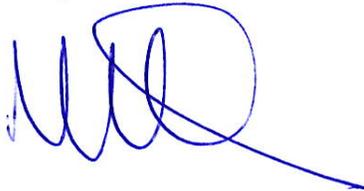
The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, AT&T respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Please feel free to call me at (860) 670-9068 with any questions regarding this matter. Thank you for your consideration.

Sincerely,



Mark Roberts
QC Development
Consultant for AT&T

Attachments

cc: Bonnie Reemsnyder - as Elected Official
Keith Rosenfeld – Zoning Enforcement Officer
Michael W. Sanders – as Property Owner
Wireless Solutions - as Tower Owner

Power Density

Existing Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm ²)	Freq. Band (MHz ^{**})	Limit S (mW/cm ²)	%MPE
Other Carriers*							3.07%
AT&T GSM	1	313	145	0.0058	850	0.5667	0.10%
AT&T UMTS	1	247	145	0.0046	850	0.5667	0.08%
AT&T LTE	1	1476	145	0.0275	740	0.4667	0.59%
AT&T LTE	2	2421	145	0.0901	1900	1.0000	0.90%
Site Total							4.74%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

Proposed Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm ²)	Freq. Band (MHz ^{**})	Limit S (mW/cm ²)	%MPE
Other Carriers*							3.07%
AT&T LTE	1	2951	145	0.0549	700	0.4667	1.18%
AT&T LTE / 5G	2	1000	145	0.0372	850	0.5667	0.66%
AT&T LTE	2	4842	145	0.1802	1900	1.0000	1.80%
AT&T LTE	2	5070	145	0.1887	2100	1.0000	1.89%
AT&T LTE	1	1285	145	0.0239	2300	1.0000	0.24%
Site Total							8.83%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

Note: Proposed Loading may also include corrections to certain Existing Loading values

PROJECT INFORMATION

SCOPE OF WORK: **ITEMS TO BE MOUNTED ON THE EXISTING TOWER:**
 •NEW SITEPRO1 HANDRAIL KIT P/N HRK14.
 •NEW AT&T ANTENNAS: (QS46512-2) @ POS. 3 (TOTAL OF 1 FOR ALPHA SECTOR).
 •NEW AT&T ANTENNAS: (QS66512-2) @ POS. 3 (TYP. OF 1 PER BETA & GAMMA SECTOR, TOTAL OF 2).
 •NEW AT&T RRUS B66 4426 B66 (AWS) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
 •NEW AT&T RRUS 32 (WCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
 •NEW SURGE ARRESTOR DC6-48-60-18-8C (TOTAL OF 2) WITH (4) DC POWER CABLES, & (2) FIBER RUN.
 •NEW LOW BAND COMBINERS (DBCT108F1V92-1) @ POS 3 (TYP. OF 1 PER SECTOR, TOTAL OF 3).

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:
 •ADD (1) FIF RACK FOR RRUS.
 •ADD (2) RRUS 4478 B14 (700) (ALPHA & BETA SHARE 1)
 •ADD (3) RRUS 4478 B5 (850).
 •REPLACE DIPLEXERS WITH LBCS.
 •ADD (24) POLYPHASERS (TSXDC-4310FM).
 •SWAP BB WITH (2) RBS 5216'S.
 •ADD 2ND XMU WITH IDLe.
 •ADD RBS 6630.
 •ADD RBS 6630.
 •ADD DC12.
 •BASEBAND CONFIGURATION AS PER PD / SECTION-7.

ITEMS TO REMAIN:
 •(6) ANTENNAS, (6) RRU'S, (3) TWIN TMA'S, (1) SURGE ARRESTORS, (12) COAX CABLES, (2) DC POWER CABLES & (1) FIBER RUN.

SITE ADDRESS: 62-1 BOGGY HOLE ROAD
 OLD LYME, CT 06371

PAGE ID: MRCTB030942, MRCTB031716, MRCTB031858, MRCTB031374

LATITUDE: 41.3223111° N 41° 19' 20.32" N
 LONGITUDE: 72.3070239° W 72° 18' 25.28" W
 TYPE OF SITE: MONOPOLE TOWER/INDOOR EQUIPMENT
 STRUCTURE HEIGHT: 175'-0"± A.G.L
 RAD CENTER: 145'-0"± A.G.L
 CURRENT USE: TELECOMMUNICATIONS FACILITY
 PROPOSED USE: TELECOMMUNICATIONS FACILITY



SITE NUMBER: CT2198

SITE NAME: OLD LYME BOGGY HOLE ROAD

FA CODE: 10035430

PROJECT: LTE 3C/4C/5C/6C/ 2018 UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:
 HEAD EAST ON ENTERPRISE DR TOWARD CAPITOL BLVD..TURN LEFT AT CAPITOL BLVD..TURN LEFT AT WEST ST..TURN LEFT TO MERGE ONTO I-91 S TOWARD NEW HAVEN..TAKE EXIT 22S ON THE LEFT TO MERGE ONTO CT-9 S TOWARD MIDDLETOWN/OLD SAYBROOK..TAKE THE EXIT ONTO GOVERNOR JOHN DAVIS LODGE TURNPIKE/I-95 N/US-1 N TOWARD NEW LONDON/PROVIDENCE. TAKE EXIT 70 FOR US-1 N/CT-156 W. TURN LEFT AT CT-156/NECK RD/US-1. TURN RIGHT AT HALLS RD/US-1. TURN LEFT AT LYME ST/US-1. CONTINUE TO FOLLOW US-1. TAKE A RIGHT ON BOGGY HILL ROAD WHICH WILL TURN INTO A DIRT ROAD FOLLOW TO THE END!!!! PAST BRICK WALL AND GATE GUARDED BY GARGOYLES. CONTINUE ON DIRT ROAD AND FOLLOW UP HILL TO SITE COMPOUND.



GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T MOBILITY REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
4. CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN.

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	2
GN-1	GENERAL NOTES	2
A-1	COMPOUND & EQUIPMENT PLAN	2
A-2	ANTENNA LAYOUT & ELEVATION	2
A-3	DETAILS	2
SN-1	STRUCTURAL NOTES	2
S-1	STRUCTURAL DETAILS	2
G-1	GROUNDING DETAILS	2
RF-1	RF PLUMBING DIAGRAM	2

72 HOURS



CALL BEFORE YOU DIG



CALL TOLL FREE 1-800-922-4455
 OR CALL 811

UNDERGROUND SERVICE ALERT

HGD HUDSON Design Group LLC
 45 BEECHWOOD DRIVE NORTH ANDOVER, MA 01845
 TEL: (978) 557-5553 FAX: (978) 336-5586

SAI
 12 INDUSTRIAL WAY, SALEM, NH 03079

SITE NUMBER: CT2198
SITE NAME: OLD LYME BOGGY HOLE ROAD
 62-1 BOGGY HOLE ROAD
 OLD LYME, CT 06371
 NEW LONDON COUNTY

at&t
 500 ENTERPRISE DRIVE, SUITE 3A
 ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	09/07/18	ISSUED FOR CONSTRUCTION	SG	AT	DJC
1	08/16/18	ISSUED FOR CONSTRUCTION	AM	AT	DJC
A	06/28/18	ISSUED FOR REVIEW	ET	AT	DJC

SCALE: AS SHOWN DESIGNED BY: AT DRAWN BY: ET

Professional Engineer Seal for Derek J. Creaser, State of Connecticut, License No. 16225.

SITE NUMBER	DRAWING NUMBER	REV
CT2198	T-1	2

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR - SAI
 SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER - AT&T MOBILITY
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH LTE SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
20. APPLICABLE BUILDING CODES:
 SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
 BUILDING CODE: IBC 2012 WITH 2016 CT BUILDING CODE AMENDMENTS
 ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
 LIGHTENING CODE: REFER TO ELECTRICAL DRAWINGS

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL

EQUIPMENT AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	EQ	EQUAL	REQ	REQUIRED
AWG	AMERICAN WIRE GAUGE	GC	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
BBU	BATTERY BACKUP UNIT	GRC	GALVANIZED RIGID CONDUIT	TBD	TO BE DETERMINED
BTCW	BARE TINNED SOLID COPPER WIRE	MGB	MASTER GROUND BAR	TBR	TO BE REMOVED
BGR	BURIED GROUND RING	MIN	MINIMUM	TBRR	TO BE REMOVED AND REPLACED
BTS	BASE TRANSCEIVER STATION	P	PROPOSED	TYP	TYPICAL
E	EXISTING	NTS	NOT TO SCALE	UG	UNDER GROUND
EGB	EQUIPMENT GROUND BAR	RAD	RADIATION CENTER LINE (ANTENNA)	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		



45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586



12 INDUSTRIAL WAY,
SALEM, NH 03079

SITE NUMBER: CT2198
SITE NAME: OLD LYME BOGGY HOLE ROAD
 62-1 BOGGY HOLE ROAD
 OLD LYME, CT 06371
 NEW LONDON COUNTY



500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

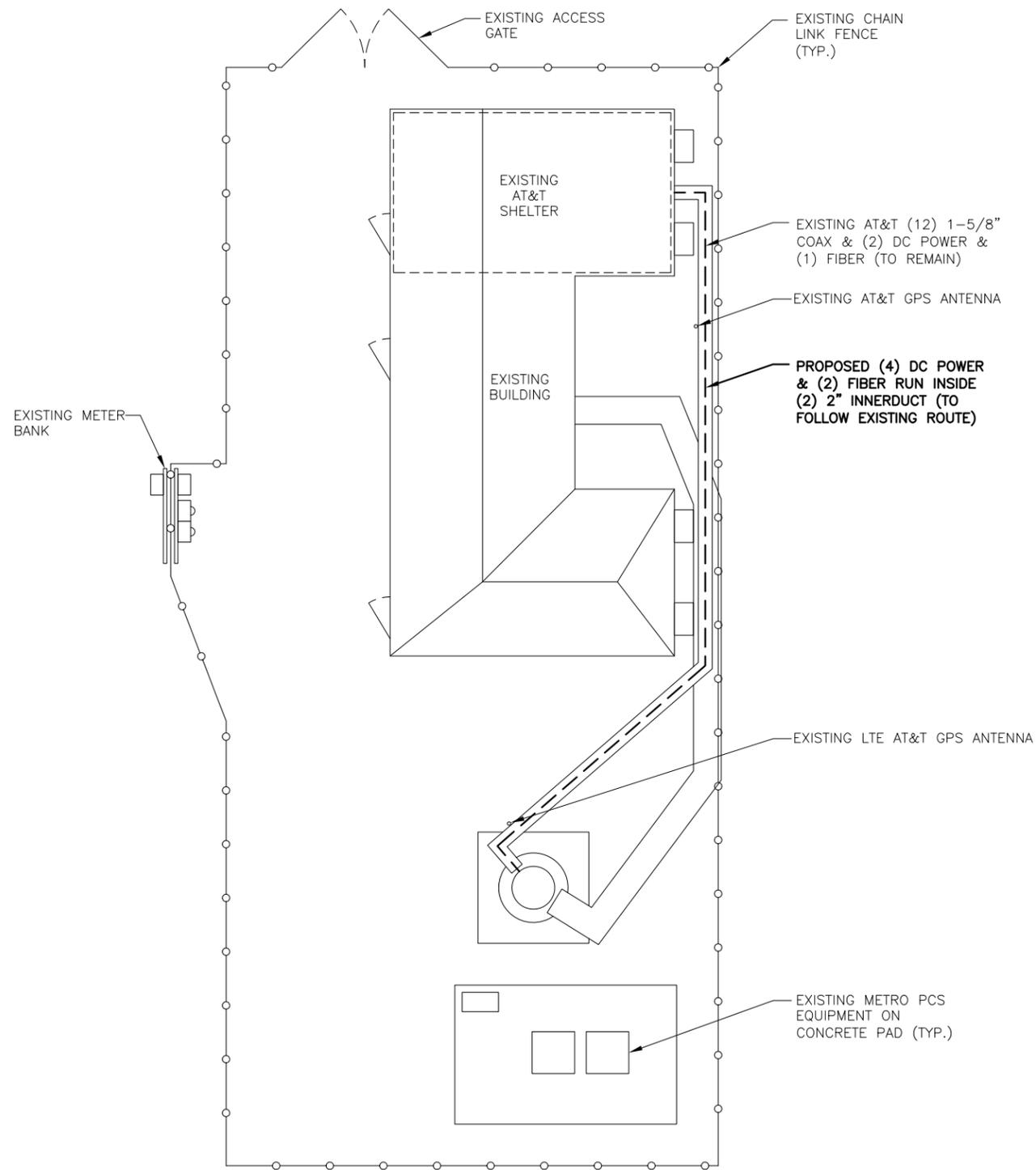
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SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: ET		



AT&T

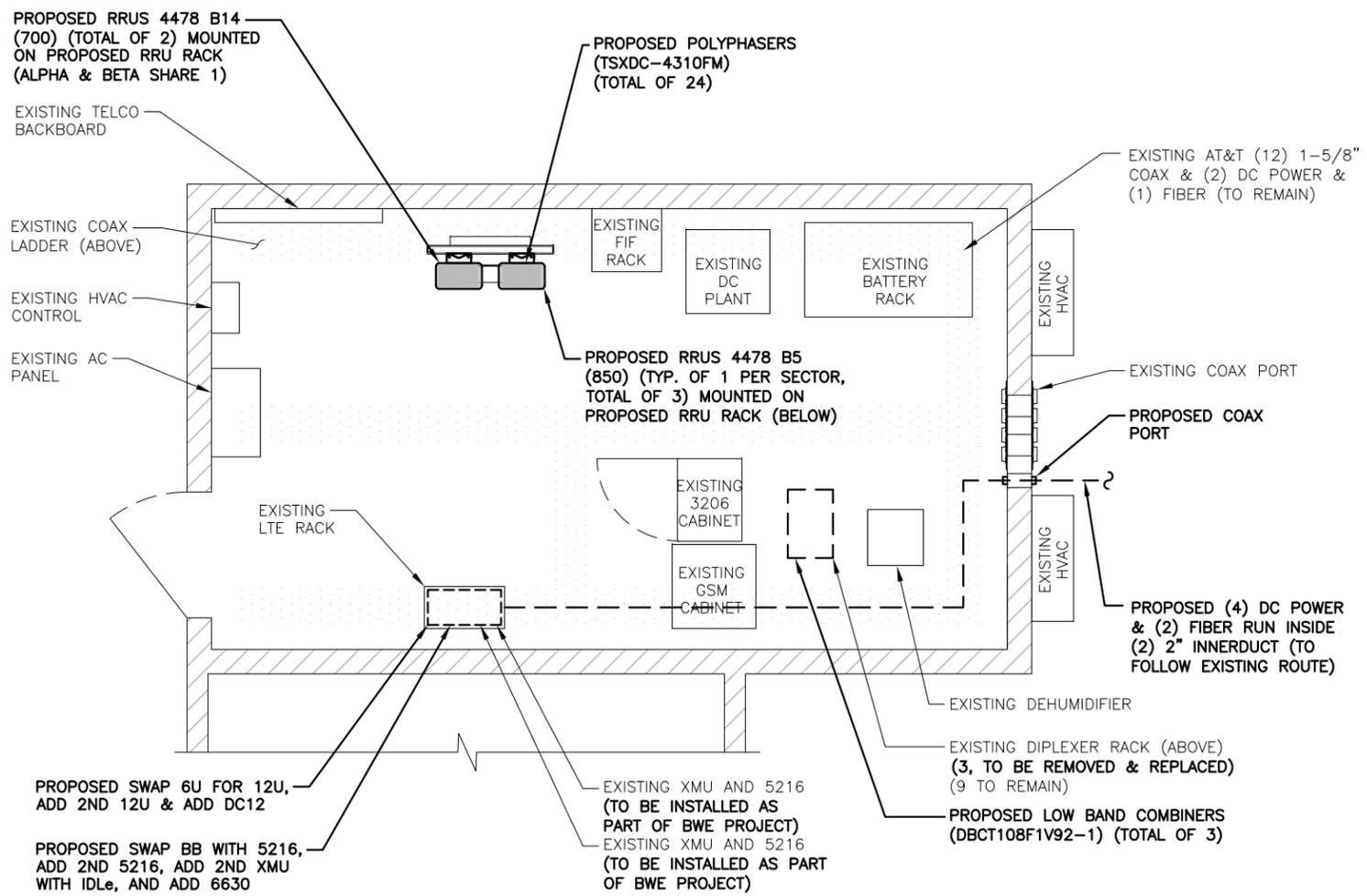
GENERAL NOTES
(LTE 3C/4C/5C/6C)

SITE NUMBER	DRAWING NUMBER	REV
CT2198	GN-1	2



COMPOUND PLAN

22x34 SCALE: 3/16"=1'-0"
11x17 SCALE: 3/32"=1'-0"



EQUIPMENT PLAN

22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"



SPECIAL CONSTRUCTION/PLANNING NOTE:
EQUIPMENT SHOWN AS "TO BE INSTALLED AS PART OF LTE BWE PROJECT" REFERS TO RECORD DRAWINGS AND NOT ACTUAL FIELD CONDITIONS. DEPLOYMENT OF EQUIPMENT "TO BE INSTALLED AS PART OF LTE BWE PROJECT" UNDER A SEPARATE BUILDING PERMIT PRIOR TO CONSTRUCTION START OF THIS PROJECT.

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: AUGUST 31, 2018 (REV.3)

NOTE:
REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: AUGUST 10, 2018, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

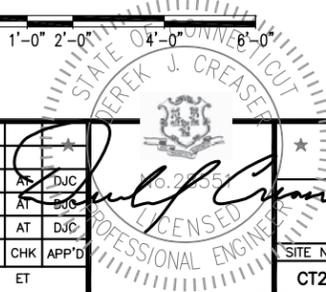
HDG HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

SAI
12 INDUSTRIAL WAY,
SALEM, NH 03079

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62-1 BOGGY HOLE ROAD
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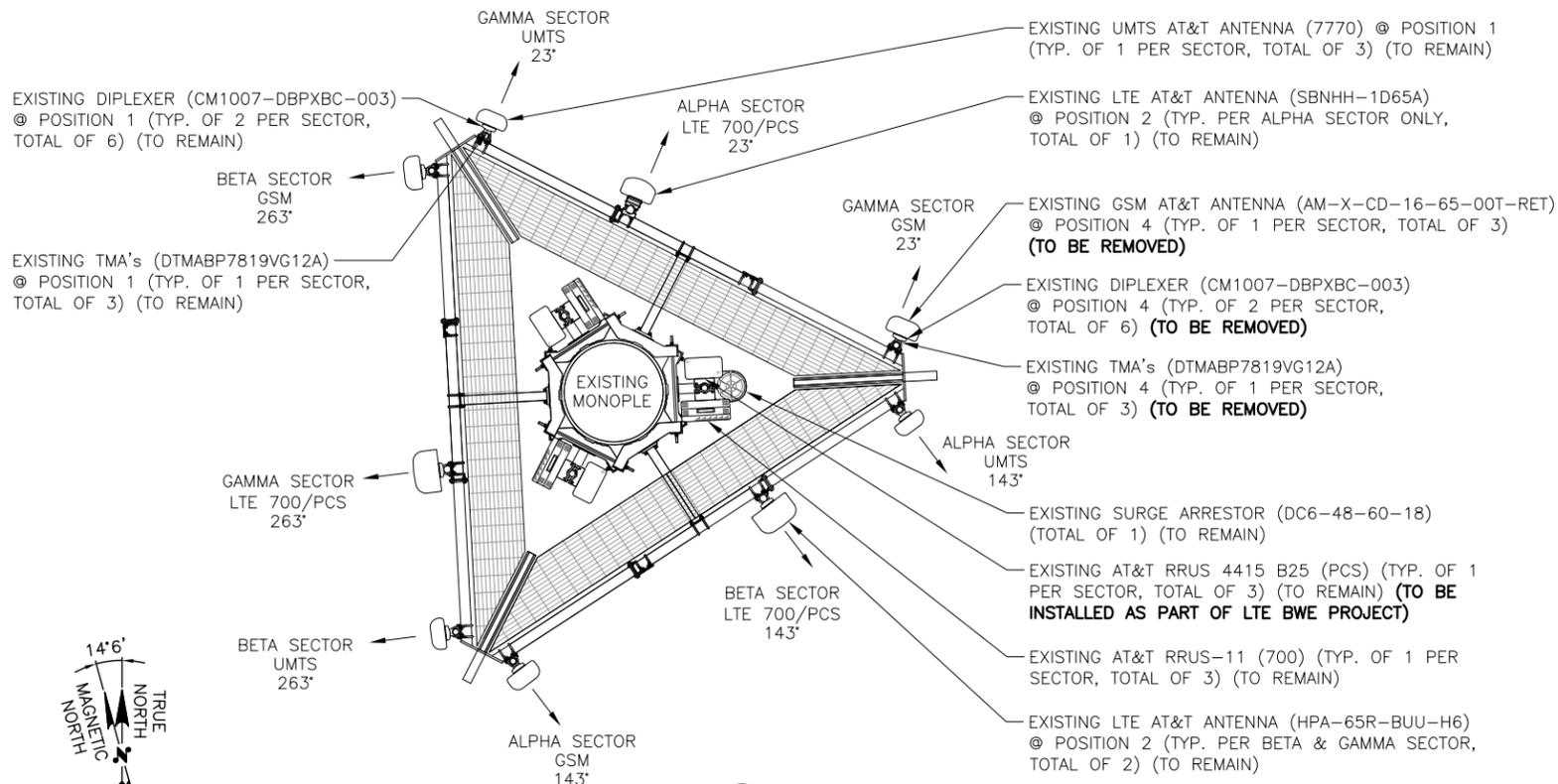
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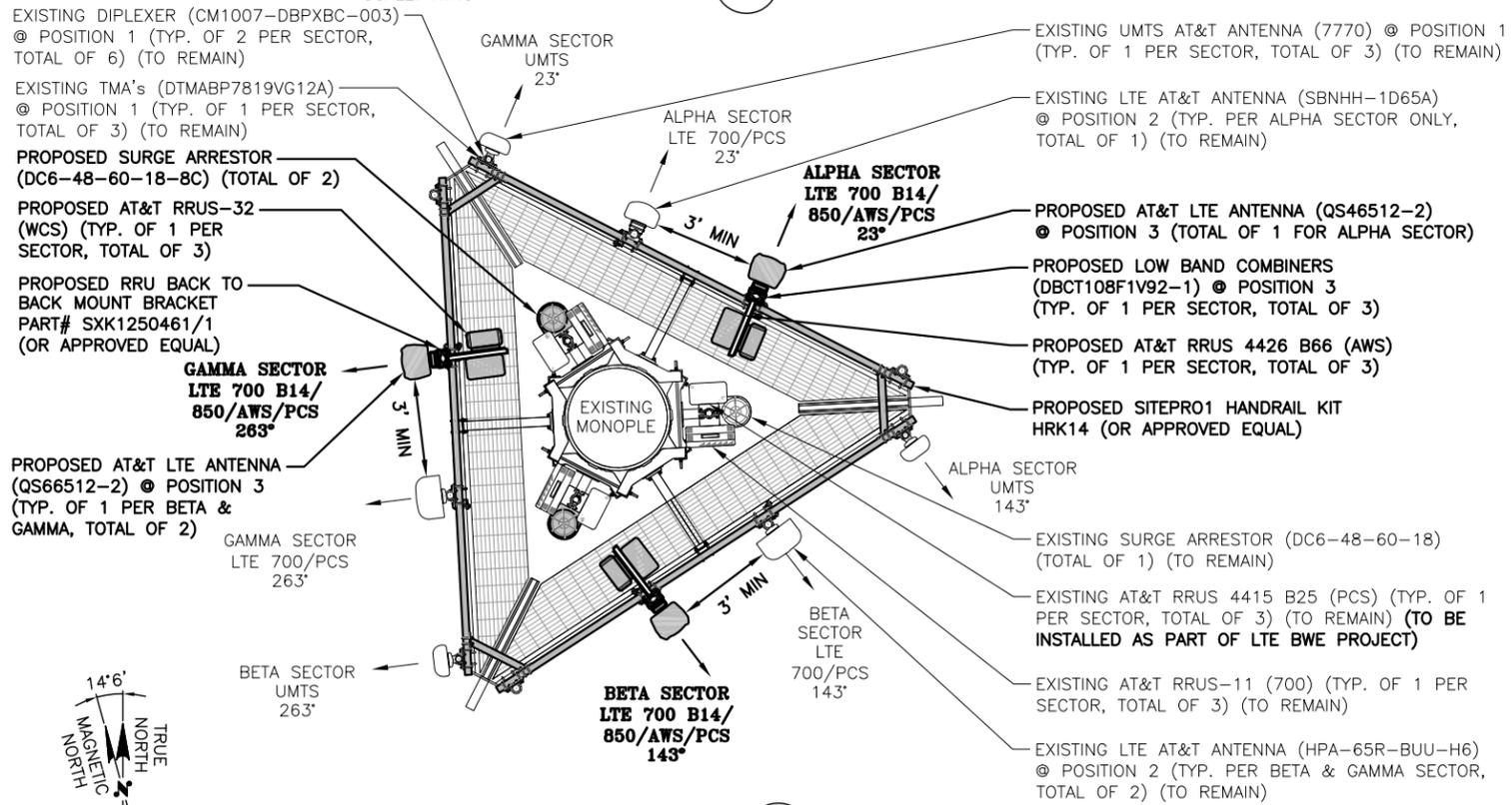


AT&T
COMPOUND & EQUIPMENT PLAN
(LTE 3C/4C/5C/6C)

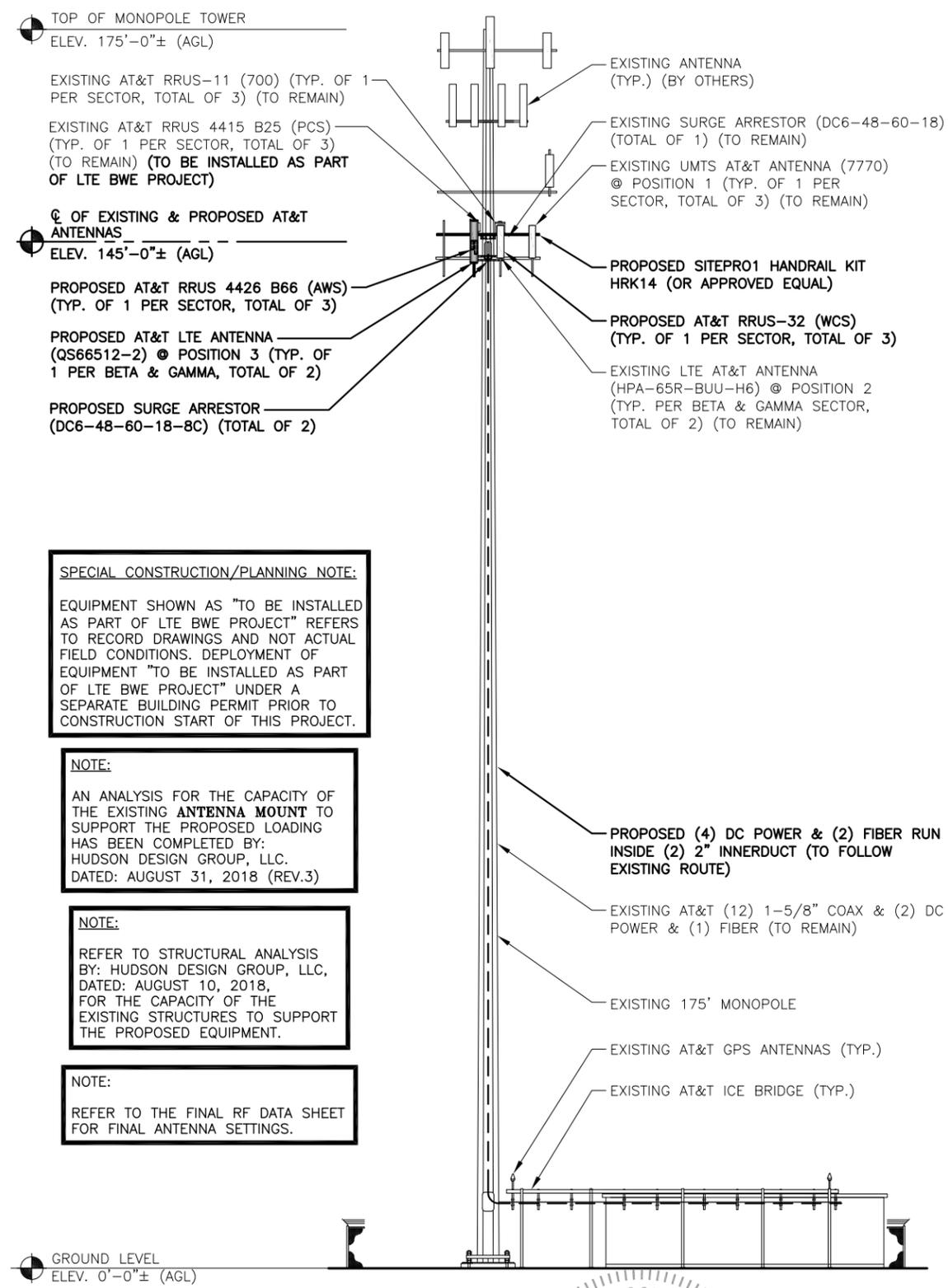
SITE NUMBER	DRAWING NUMBER	REV
CT2198	A-1	2



EXISTING ANTENNA LAYOUT 1
SCALE: N.T.S. A-2



PROPOSED ANTENNA LAYOUT 2
SCALE: N.T.S. A-2



SPECIAL CONSTRUCTION/PLANNING NOTE:
EQUIPMENT SHOWN AS "TO BE INSTALLED AS PART OF LTE BWE PROJECT" REFERS TO RECORD DRAWINGS AND NOT ACTUAL FIELD CONDITIONS. DEPLOYMENT OF EQUIPMENT "TO BE INSTALLED AS PART OF LTE BWE PROJECT" UNDER A SEPARATE BUILDING PERMIT PRIOR TO CONSTRUCTION START OF THIS PROJECT.

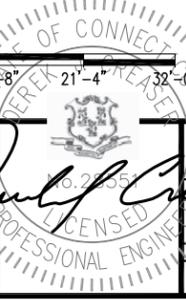
NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: AUGUST 31, 2018 (REV.3)

NOTE:
REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: AUGUST 10, 2018, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

ELEVATION 3
22x34 SCALE: 3/32"=1'-0"
11x17 SCALE: 3/64"=1'-0" A-2

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	09/07/18	ISSUED FOR CONSTRUCTION	SG	AT	DJC
1	08/16/18	ISSUED FOR CONSTRUCTION	AM	AT	DJC
A	06/28/18	ISSUED FOR REVIEW	ET	AT	DJC

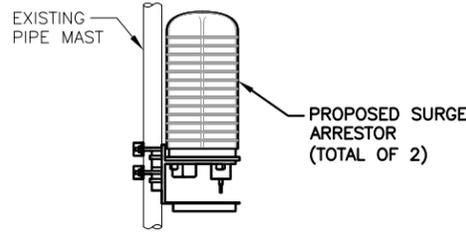


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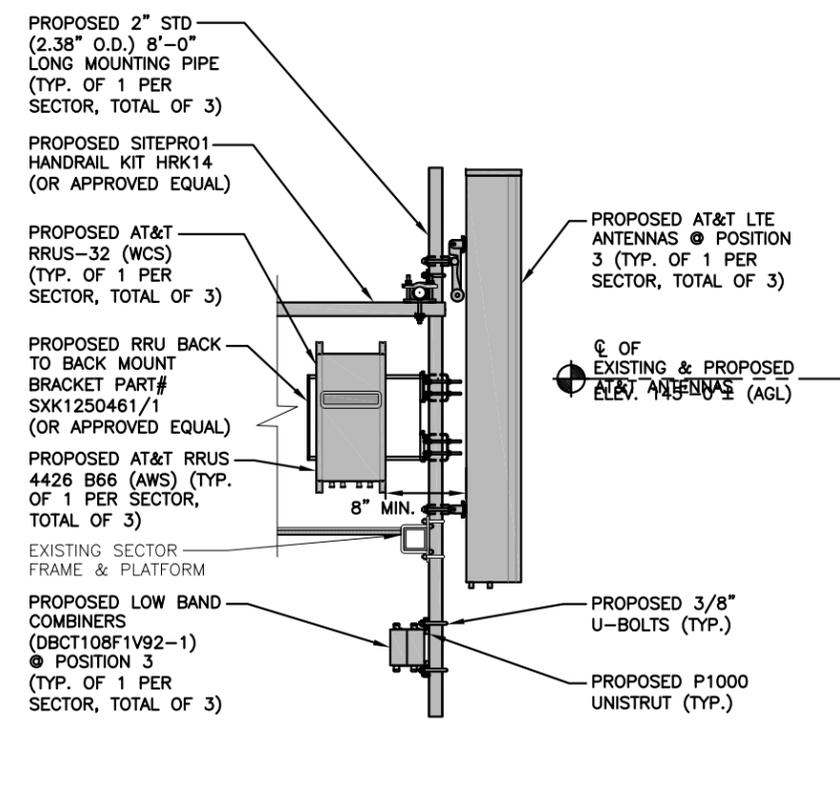
SPECIAL CONSTRUCTION/PLANNING NOTE:
EQUIPMENT SHOWN AS "TO BE INSTALLED AS PART OF LTE BWE PROJECT" REFERS TO RECORD DRAWINGS AND NOT ACTUAL FIELD CONDITIONS. DEPLOYMENT OF EQUIPMENT "TO BE INSTALLED AS PART OF LTE BWE PROJECT" UNDER A SEPARATE BUILDING PERMIT PRIOR TO CONSTRUCTION START OF THIS PROJECT.



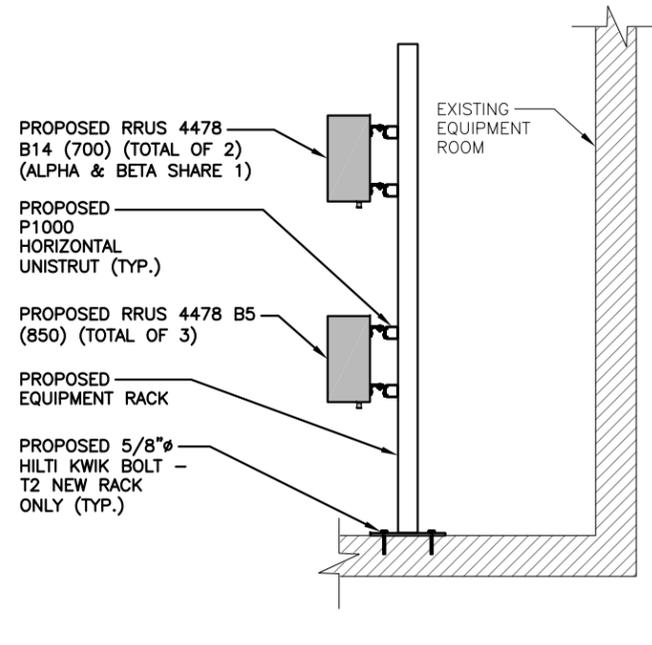
PROPOSED SURGE ARRESTOR MOUNTING DETAIL 1 A-3
SCALE: N.T.S.

ANTENNA SCHEDULE											
SECTOR	EXISTING/PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA C HEIGHT	AZIMUTH	TMA/COMBINERS	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	EXISTING	UMTS	7770	55X11X5	145'-0"±	143°	CCI (1) DTMABP7819VG12A	--	--	(2) 1-5/8 COAX LENGTH = 203'±	(E) (1) RAYCAP DC6-48-60-18-8C
A2	EXISTING	LTE 700 /PCS	SBNHH-1D65A	55X11.8X7.1	145'-0"±	23°	--	(E) (1) RRUS-11 (700) (P) (1) RRUS-32 (WCS)	27.2X12.1X7.0	--	(P) (1) RAYCAP DC6-48-60-18-8C
A3	PROPOSED	LTE 700 B14/850/AWS/PCS	QS46512-2	52X12X10.8	145'-0"±	23°	KAEIUS (1) DBCT108F1V92-1	(P)(G) (1) 4478 B14 (700) (P)(G) (1) 4478 B5 (850) (E) (1) 4415 B25 (PCS) (P) (1) 4426 B66 (AWS)	15X13.2X7.4 15X13.2X7.4 15X13.2X7.4	(2) 1-5/8 COAX LENGTH = 203'±	(E) (1) RAYCAP DC6-48-60-18-8C
B1	EXISTING	UMTS	7770	55X11X5	145'-0"±	263°	CCI (1) DTMABP7819VG12A	--	--	(2) 1-5/8 COAX LENGTH = 203'±	(P) (1) RAYCAP DC6-48-60-18-8C
B2	EXISTING	LTE 700 /PCS	HPA-65R-BUU-H6	72X14.8X7.4	145'-0"±	143°	--	(E) (1) RRUS-11 (700) (P) (1) RRUS-32 (WCS)	27.2X12.1X7.0	--	(P) (1) RAYCAP DC6-48-60-18-8C
B3	PROPOSED	LTE 700 B14/850/AWS/PCS	QS66512-2	72X12X9.6	145'-0"±	143°	KAEIUS (1) DBCT108F1V92-1	(P)(G) (1) 4478 B5 (850) (E) (1) 4415 B25 (PCS) (P) (1) 4426 B66 (AWS)	15X13.2X7.4 15X13.2X7.4 15X13.2X7.4	(2) 1-5/8 COAX LENGTH = 203'±	(P) (1) RAYCAP DC6-48-60-18-8C
C1	EXISTING	UMTS	7770	55X11X5	145'-0"±	23°	CCI (1) DTMABP7819VG12A	--	--	(2) 1-5/8 COAX LENGTH = 203'±	(P) (1) RAYCAP DC6-48-60-18-8C
C2	EXISTING	LTE 700 /PCS	HPA-65R-BUU-H6	72X14.8X7.4	145'-0"±	263°	--	(E) (1) RRUS-11 (700) (P) (1) RRUS-32 (WCS)	27.2X12.1X7.0	--	(P) (1) RAYCAP DC6-48-60-18-8C
C3	PROPOSED	LTE 700 B14/850/AWS/PCS	QS66512-2	72X12X9.6	145'-0"±	263°	KAEIUS (1) DBCT108F1V92-1	(P)(G) (1) 4478 B14 (700) (P)(G) (1) 4478 B5 (850) (E) (1) 4415 B25 (PCS) (P) (1) 4426 B66 (AWS)	15X13.2X7.4 15X13.2X7.4 15X13.2X7.4	(2) 1-5/8 COAX LENGTH = 203'±	(P) (1) RAYCAP DC6-48-60-18-8C

FINAL ANTENNA CONFIGURATION TABLE 2 A-3



PROPOSED ANTENNA & RRU MOUNT DETAIL 3 A-3
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"



RRUS MOUNTING DETAIL ON PROPOSED FIF RACK 4 A-3
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

RRU CHART				
QUANTITY	MODEL	L	W	D
3(E)	RRUS-11	19.7"	17.0"	7.2"
3(E)	B25.4415	15.0"	13.2"	5.4"
3(P)	RRUS-32	27.2"	12.1"	7.0"
3(P)(G)	B5.4478	15.0"	13.2"	7.4"
2(P)(G)	B14.4478	15.0"	13.2"	7.4"
3(P)	B66.4426	15.0"	13.2"	7.4"

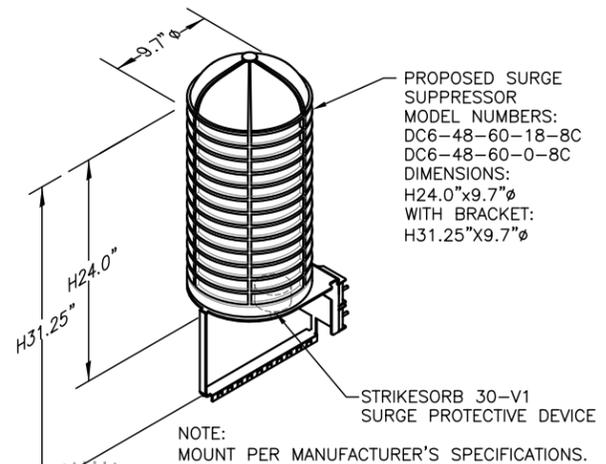
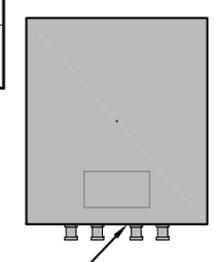
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

NOTE:
SEE RFDS FOR RRU FREQUENCY AND MODEL NUMBER

PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED RRU DETAIL 5 A-3
SCALE: N.T.S.



DC SURGE SUPPRESSOR DETAIL 6 A-3
SCALE: N.T.S.

STRUCTURAL NOTES:

- DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
- DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
- STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi). MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
- STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
- STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
- ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
- FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
- CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND D.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL", 14TH EDITION.
- INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
- UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
- EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-70 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
- EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
- WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
- ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
- NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
- SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTION CHECKLIST

BEFORE CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
N/A	ENGINEER OF RECORD APPROVED SHOP DRAWINGS ¹
N/A	MATERIAL SPECIFICATIONS REPORT ²
N/A	FABRICATOR NDE INSPECTION
N/A	PACKING SLIPS ³
ADDITIONAL TESTING AND INSPECTIONS:	
DURING CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	STEEL INSPECTIONS
N/A	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS ⁴
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
N/A	POST INSTALLED ANCHOR VERIFICATION ⁵
N/A	GROUT VERIFICATION
N/A	CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
ADDITIONAL TESTING AND INSPECTIONS:	
AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS ⁶
N/A	POST INSTALLED ANCHOR PULL-OUT TESTING
REQUIRED	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTES:

- REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
- PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
- PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
- HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
- ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
- AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

GENERAL: WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

NOTES:

- ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"Ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
- SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.
- SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED PRIOR TO STEEL FABRICATION.
- VERIFICATION OF EXISTING ROOF CONSTRUCTION IS REQUIRED PRIOR TO THE INSTALLATION OF THE ROOF PLATFORM. ENGINEER OF RECORD IS TO APPROVE EXISTING CONDITIONS IN ORDER TO MOVE FORWARD.
- CENTERLINE OF PROPOSED STEEL PLATFORM SUPPORT COLUMNS TO BE CENTRALLY LOCATED OVER THE EXISTING BUILDING COLUMNS.
- EXISTING BRICK MASONRY COLUMNS/BEARING TO BE REPAIRED/REPLACED AT ALL PROPOSED PLATFORM SUPPORT POINTS. ENGINEER OF RECORD TO REVIEW AND APPROVE.



45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586



12 INDUSTRIAL WAY.
SALEM, NH 03079

SITE NUMBER: CT2198
SITE NAME: OLD LYME BOGGY HOLE ROAD
62-1 BOGGY HOLE ROAD
OLD LYME, CT 06371
NEW LONDON COUNTY



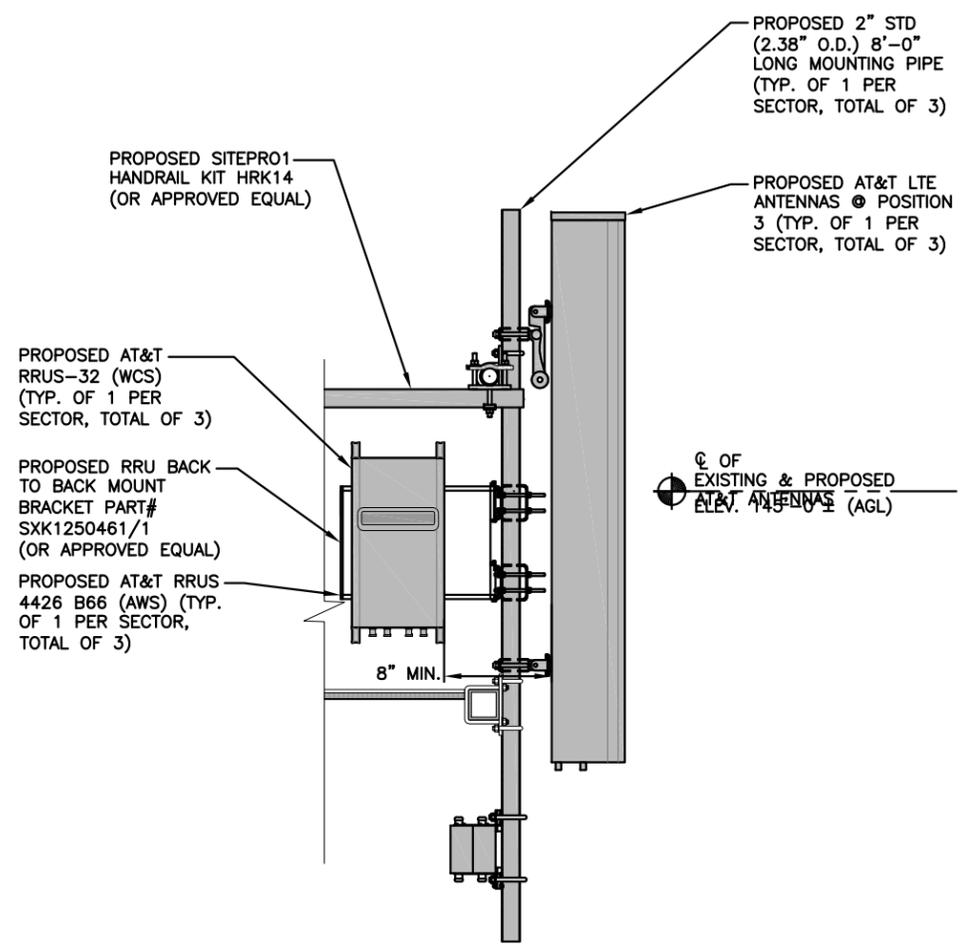
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

				STATE OF CONNECTICUT DEREK J. CREASEY REGISTERED PROFESSIONAL ENGINEER		AT&T	
2	09/07/18	ISSUED FOR CONSTRUCTION	SG	AT	DJC	STRUCTURAL NOTES (LTE 3C/4C/5C/6C)	
1	08/16/18	ISSUED FOR CONSTRUCTION	AM	AT	DJC		
A	06/28/18	ISSUED FOR REVIEW	ET	AT	DJC		
NO.	DATE	REVISIONS	BY	CHK	APP'D		
SCALE: AS SHOWN			DESIGNED BY: AT		DRAWN BY: ET		
						SITE NUMBER	DRAWING NUMBER
						CT2198	SN-1
							2

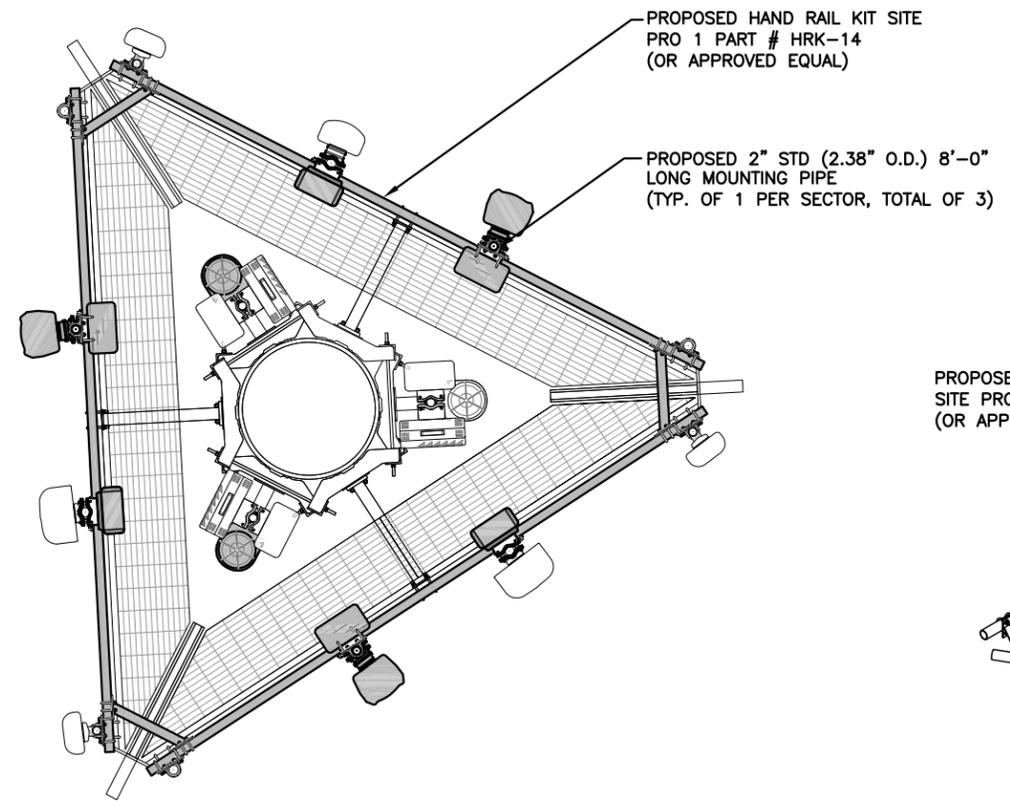
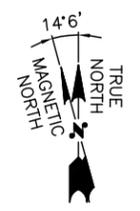
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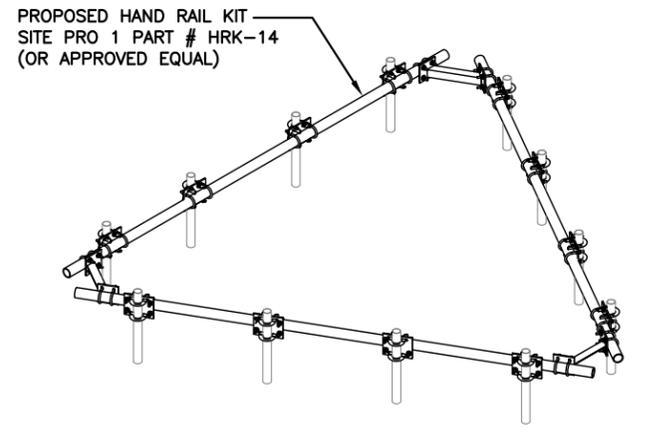
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PROPOSED MOUNT MODIFICATION DETAIL 1
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"
S-1



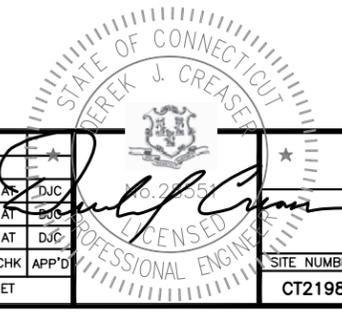
PLATFORM REINFORCEMENT PLAN 2
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"
S-1

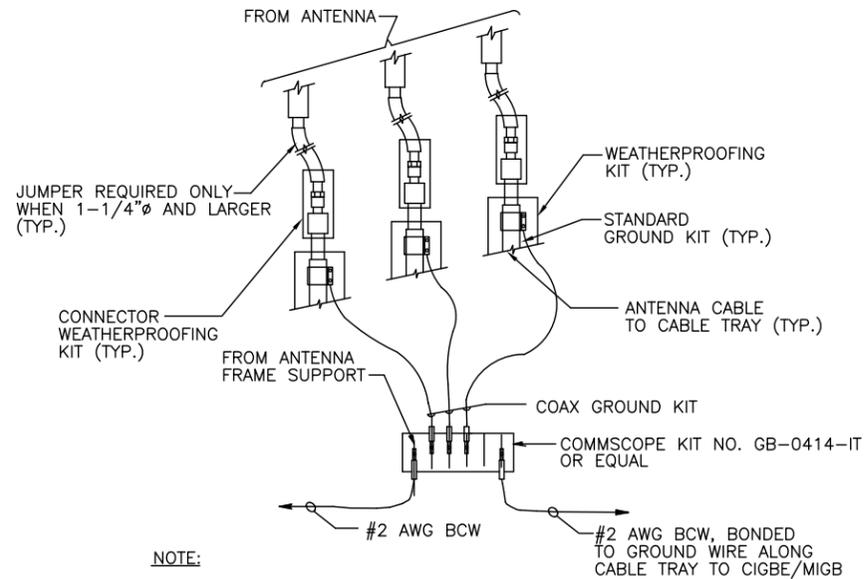


PROPOSED HANDRAIL KIT 3
SCALE: N.T.S.
S-1

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	09/07/18	ISSUED FOR CONSTRUCTION	SG	AT	DJC
1	08/16/18	ISSUED FOR CONSTRUCTION	AM	AT	DJC
A	06/28/18	ISSUED FOR REVIEW	ET	AT	DJC

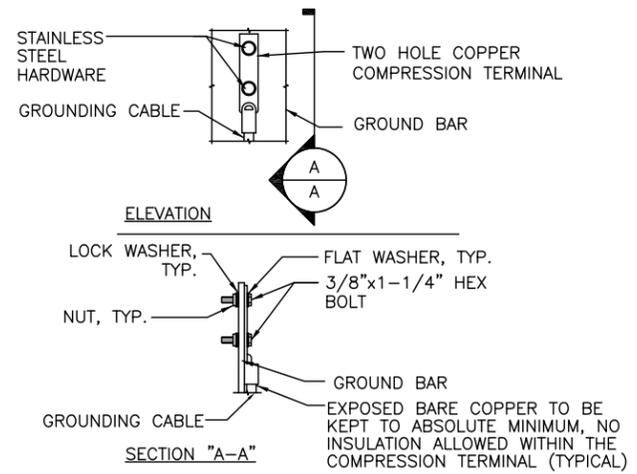
SCALE: AS SHOWN DESIGNED BY: AT DRAWN BY: ET





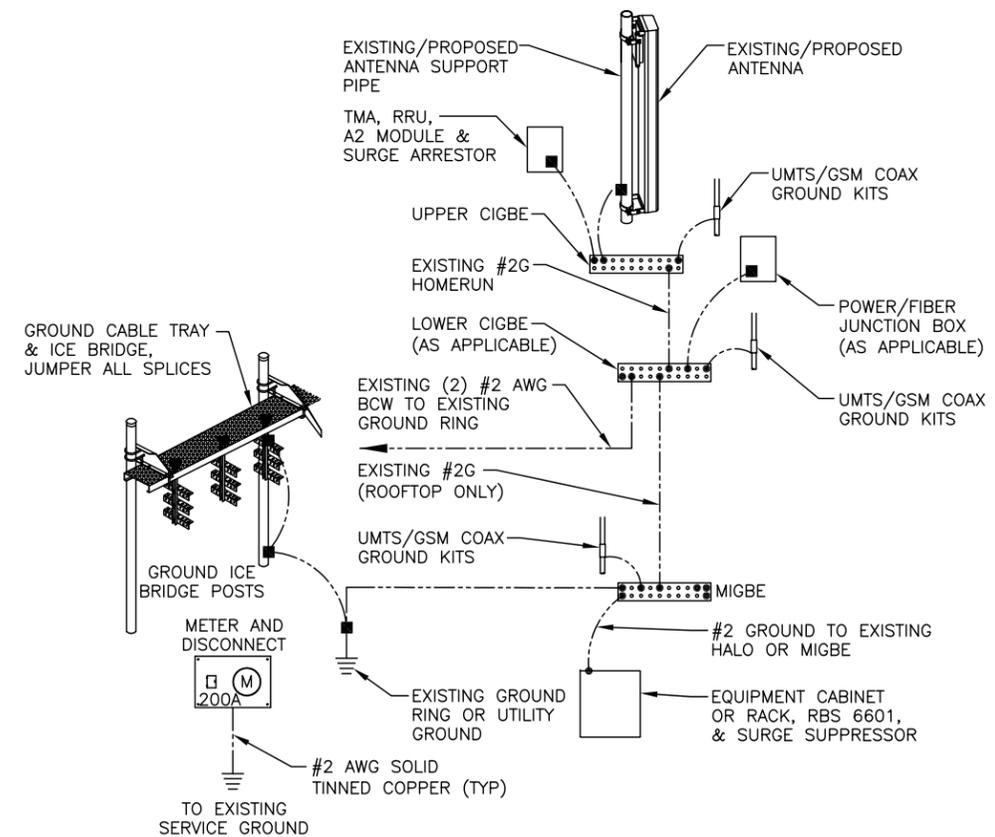
NOTE:
 1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

GROUND WIRE TO GROUND BAR CONNECTION DETAIL 1
 SCALE: N.T.S. G-1



NOTE:
 1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
 2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATION.
 3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB

TYPICAL GROUND BAR CONNECTION DETAIL 3
 SCALE: N.T.S. G-1



GROUNDING RISER DIAGRAM 2
 SCALE: N.T.S. G-1

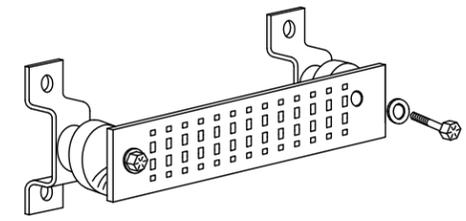
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PRODUCERS

- CABLE ENTRY PORTS (HATCH PLATES) (#2)
- GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
- TELCO GROUND BAR
- COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
- +24V POWER SUPPLY RETURN BAR (#2)
- 48V POWER SUPPLY RETURN BAR (#2)
- RECTIFIER FRAMES.

SECTION "A" - SURGE ABSORBERS

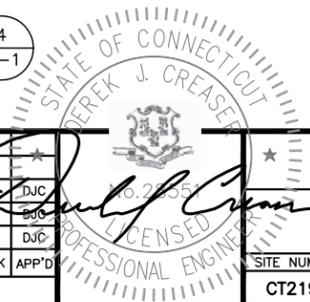
- INTERIOR GROUND RING (#2)
- EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
- METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
- BUILDING STEEL (IF AVAILABLE) (#2)

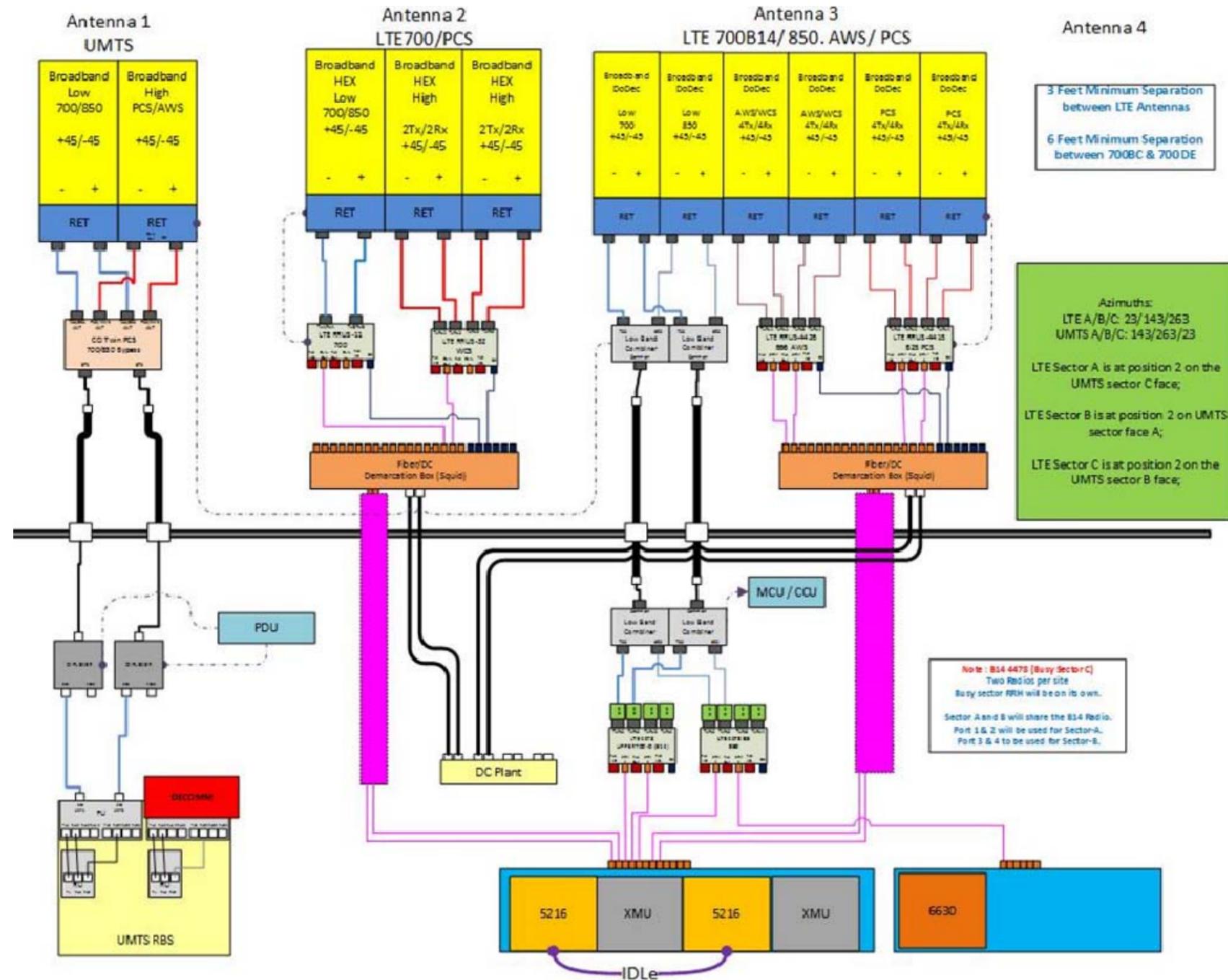


GROUND BAR - DETAIL 4
 SCALE: N.T.S. G-1

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	09/07/18	ISSUED FOR CONSTRUCTION	SG	AT	DJC
1	08/16/18	ISSUED FOR CONSTRUCTION	AM	AT	DJC
A	06/28/18	ISSUED FOR REVIEW	ET	AT	DJC

SCALE: AS SHOWN DESIGNED BY: AT DRAWN BY: ET



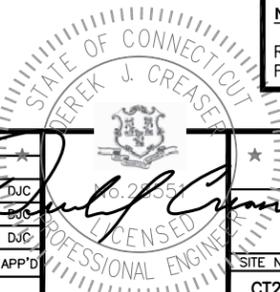


RF PLUMBING DIAGRAM 1
SCALE: N.T.S. RF-1

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	09/07/18	ISSUED FOR CONSTRUCTION	SG	AT	DJC
1	08/16/18	ISSUED FOR CONSTRUCTION	AM	AT	DJC
A	06/28/18	ISSUED FOR REVIEW	ET	AT	DJC
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: ET		



STRUCTURAL ANALYSIS REPORT

For

CT2198

OLD LYME BOGGY HOLE ROAD

62-1 BOGGY HOLE ROAD
OLD LYME, CT 06371

Antennas Mounted to the Monopole



Prepared for:



Dated: August 10, 2018

Prepared by:



HUDSON
Design Group LLC

45 Beechwood Drive
North Andover, MA 01845
(P) 978.557.5553 (F) 978.336.5586
www.hudsondesigngroupllc.com



Gi Kai Wang 8/10/2018



HUDSON
Design Group LLC

SCOPE OF WORK:

Hudson Design Group LLC (HDG) has been authorized by AT&T to conduct a structural evaluation of the 175' monopole supporting the proposed AT&T's antennas located at elevation 145' above the ground level.

This report represents this office's findings, conclusions and recommendations pertaining to the support of AT&T's existing and proposed antennas listed below.

Record drawings of the existing tower were not available for our use. The previous structural analysis report prepared by Destek Engineering, dated March 8, 2016, was available and obtained for our use.

CONCLUSION SUMMARY:

Based on our evaluation, we have determined that the existing monopole and foundation are in conformance with the ANSI/TIA-222-G Standard for the loading considered under the criteria listed in this report. The monopole structure is rated at 63.7% - (Base plate at EL.0' Controlling).



APPURTENANCES CONFIGURATION:

Tenant	Appurtenances	Elev.	Mount
	(6) AIR21 B2A/B4P Antennas	175'	Low Profile Platform
	(3) KRY 112 71/2	175'	Low Profile Platform
	(3) BXA-70063-6CF Antennas	162'	Low Profile Platform
	(3) LNX-6514DS-VTM Antennas	162'	Low Profile Platform
	(6) HBXX-6517DS-VTM Antennas	162'	Low Profile Platform
	(3) RRH2X60 PCS	162'	Low Profile Platform
	(3) RRH2X40-07-U	162'	Low Profile Platform
	(3) RRH2X40 AWS	162'	Low Profile Platform
	(2) DB-B1-6C-8AB-0Z	162'	Low Profile Platform
	(6) APXV18-206516S-C Antennas	152'	Low Profile Platform
AT&T	(3) 7770 Antennas	145'	Low Profile Platform
AT&T	(1) SBNHH-1D65A Antenna	145'	Low Profile Platform
AT&T	(2) HPA-65R-BUU-H6 Antennas	145'	Low Profile Platform
AT&T	(3) DTMABP7819VG12A	145'	Low Profile Platform
AT&T	(3) RRUS-11	145'	Ring Mount
AT&T	(3) B25 4415	145'	Ring Mount
AT&T	(1) DC6-48-60-18-8C	145'	Ring Mount
AT&T	(1) QS46512-2 Antenna	145'	Low Profile Platform
AT&T	(2) QS66512-2 Antennas	145'	Low Profile Platform
AT&T	(3) DBCT108F1V92-1	145'	Low Profile Platform
AT&T	(3) RRUS-32	145'	Low Profile Platform
AT&T	(3) RRH 4426	145'	Low Profile Platform
AT&T	(2) DC6-48-60-18-8C	145'	Ring Mount
AT&T	Handrail Kit (SitePro1 HRK14)	145'	Low Profile Platform
AT&T	Back to Back Mount (Ericsson SXX1250461/1)	145'	Low Profile Platform

* Proposed AT&T Appurtenances shown in Bold.

AT&T EXISTING/PROPOSED COAX CABLES:

Tenant	Coax Cables	Elev.	Mount
AT&T	(12) 1 5/8" Cables	145'	Inside Monopole
AT&T	(2) DC Power Cables	145'	Inside Monopole
AT&T	(1) Fiber Cable	145'	Inside Monopole
AT&T	(4) DC Power Cables	145'	Inside Monopole
AT&T	(2) Fiber Cables	145'	Inside Monopole

*Proposed AT&T Coax Cables shown in Bold.



ANALYSIS RESULTS SUMMARY:

Component	Max. Stress Ratio	Elev. of Component (ft)	Pass/Fail	Comments
Pole Section-L1	17.6 %	154.87 – 175	PASS	
Pole Section-L2	44.6 %	116.29 – 154.87	PASS	
Pole Section-L3	49.6 %	74.17 – 116.29	PASS	
Pole Section-L4	50.9 %	33.34 – 74.17	PASS	
Pole Section-L5	49.9 %	0 – 33.34	PASS	
Base Plate & Anchor Bolts	63.7 %	0	PASS	Controlling



DESIGN CRITERIA:

1. EIA/TIA-222-G Structural Standards for Steel Antenna Towers and Antenna Supporting Structures
 - County: New London
 - Wind Load: 120 mph (3 second gust)
 - Structural Class: II
 - Exposure Category: B
 - Topographic Category: 1
 - Crest Height: 0 ft.
 - Ice Thickness: 0.75 inch

2. Approximate height above grade to existing antennas: 145'

Calculations and referenced documents are attached

ASSUMPTIONS:

1. The monopole dimensions, member sizes and material strength are as indicated in the previous structural analysis report prepared by Destek Engineering, dated March 8, 2016.

1. The appurtenances configuration is as stated in the previous structural analysis report prepared by Destek Engineering, dated March 8, 2016. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.

2. The tower and foundation are properly constructed and maintained. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.

3. The support mounts and platforms are not analyzed and are considered adequate to support the loading. The analysis is limited to the primary support structure itself.

4. All prior structural modification, if any, are assumed to be as per the data supplied (if available), and installed properly.

SUPPORT RECOMMENDATIONS:

HDG recommends that the proposed antennas, RRHs and combiners be mounted on the steel platform supported by the monopole; the proposed surge arrestors be mounted on the pipe mast.

Reference HDG's Latest Construction Drawings for all component and connection requirements (attached).



Photo 1: Photo illustrating the Tower with Appurtenances shown.



HUDSON
Design Group LLC

CALCULATIONS

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
(2) ERICSSON AIR 21 B2A B4P w/ Mount Pipe	175	APXV18-206516S-C-A20 w/mount pipe	152
(2) ERICSSON AIR 21 B2A B4P w/ Mount Pipe	175	APXV18-206516S-C-A20 w/mount pipe	152
(2) ERICSSON AIR 21 B2A B4P w/ Mount Pipe	175	APXV18-206516S-C-A20 w/mount pipe	152
KRY 112 71/2	175	PIROD 15' Low Profile Platform	152
KRY 112 71/2	175	Powerwave 7770 w/mount pipe (ATI - existing)	145
KRY 112 71/2	175	Powerwave 7770 w/mount pipe	145
PIROD 15' Low Profile Platform	172	Powerwave 7770 w/mount pipe	145
BXA-70063-6CF-EDIN w/mount pipe	162	SBNHH-1D65A w/ Mount Pipe	145
BXA-70063-6CF-EDIN w/mount pipe	162	HPA-65R-BUU-H6 w/mount pipe	145
BXA-70063-6CF-EDIN w/mount pipe	162	HPA-65R-BUU-H6 w/mount pipe	145
Andrew LNX-6514DS-VTM w/mount pipe	162	Ericsson RRUS-11	145
Andrew LNX-6514DS-VTM w/mount pipe	162	Ericsson RRUS-11	145
Andrew LNX-6514DS-VTM w/mount pipe	162	B25 4415	145
HBXX-6517DS-VTM w/ Mount Pipe	162	B25 4415	145
HBXX-6517DS-VTM w/ Mount Pipe	162	TMA DTMABP7819VG12A	145
HBXX-6517DS-VTM w/ Mount Pipe	162	TMA DTMABP7819VG12A	145
HBXX-6517DS-VTM w/ Mount Pipe	162	TMA DTMABP7819VG12A	145
HBXX-6517DS-VTM w/ Mount Pipe	162	DC6-48-60-18-8C	145
HBXX-6517DS-VTM w/ Mount Pipe	162	PIROD 15' Platform with handrail	145
RRH2x60 PCS	162	Quintel QS46512-2 w/mount pipe (ATI - proposed)	145
RRH2x60 PCS	162	Quintel QS66512-2 w/mpount pipe	145
RRH2x60 PCS	162	Quintel QS66512-2 w/mpount pipe	145
RRH2X40-07-U	162	DBCT108F1V92-1	145
RRH2X40-07-U	162	DBCT108F1V92-1	145
RRH2X40-07-U	162	DBCT108F1V92-1	145
RRH2X40 AWS	162	Ericsson RRUS-32	145
RRH2X40 AWS	162	Ericsson RRUS-32	145
RFS DB-B1-6C-8AB-0Z	162	Ericsson RRUS-32	145
RFS DB-B1-6C-8AB-0Z	162	RRH 4426	145
PIROD 15' Low Profile Platform	162	RRH 4426	145
APXV18-206516S-C-A20 w/mount pipe	152	DC6-48-60-18-8C	145
APXV18-206516S-C-A20 w/mount pipe	152	DC6-48-60-18-8C	145
APXV18-206516S-C-A20 w/mount pipe	152	DC6-48-60-18-8C	145

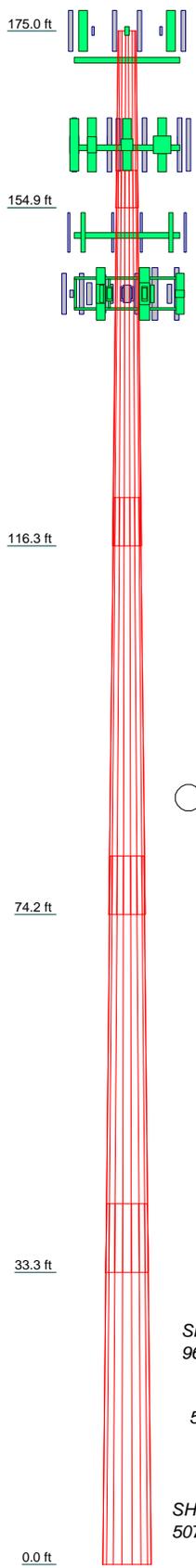
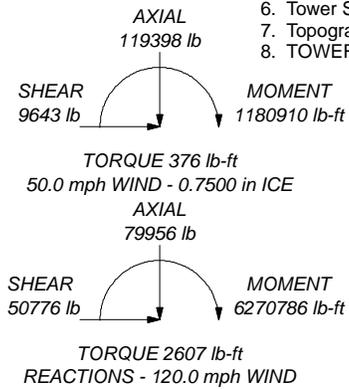
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in New London County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 120.0 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50.0 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60.0 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 50.9%

ALL REACTIONS ARE FACTORED



Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (lb)
1	20.13	18	0.1875	4.25	24.2100	29.4500	A572-65	1086.1
2	42.83	18	0.3750	5.42	27.9687	38.9900	A572-65	5742.6
3	47.54	18	0.5000	6.67	36.8453	49.0700	A572-65	10900.0
4	47.50	18	0.5630	7.83	46.3548	58.5800	A572-65	14991.6
5	41.17	18	0.6250	55.4388	66.0000		A572-65	16700.8
								49421.1

Hudson Design Group LLC			Job: CT2198		
45 Beechwood Drive North Andover, MA 01845 Phone: (978) 557-5553 FAX: (978) 336-5586			Project: 175 ft Monopole		
Client: AT&T	Drawn by: kw	App'd:	Code: TIA-222-G	Date: 08/09/18	Scale: NTS
Path:					Dwg No. E-1

tnxTower Hudson Design Group LLC 45 Beechwood Drive North Andover, MA 01845 Phone: (978) 557-5553 FAX: (978) 336-5586	Job	CT2198	Page	1 of 10
	Project	175 ft Monopole	Date	11:45:15 08/09/18
	Client	AT&T	Designed by	kw

Tower Input Data

There is a pole section.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

Tower is located in New London County, Connecticut.

Basic wind speed of 120.0 mph.

Structure Class II.

Exposure Category B.

Topographic Category 1.

Crest Height 0.00 ft.

Nominal ice thickness of 0.7500 in.

Ice thickness is considered to increase with height.

Ice density of 56.0 pcf.

A wind speed of 50.0 mph is used in combination with ice.

Temperature drop of 50.0 °F.

Deflections calculated using a wind speed of 60.0 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	175.00-154.87	20.13	4.25	18	24.2100	29.4500	0.1875	0.7500	A572-65 (65 ksi)
L2	154.87-116.29	42.83	5.42	18	27.9687	38.9900	0.3750	1.5000	A572-65 (65 ksi)
L3	116.29-74.17	47.54	6.67	18	36.8453	49.0700	0.5000	2.0000	A572-65 (65 ksi)
L4	74.17-33.34	47.50	7.83	18	46.3548	58.5800	0.5630	2.2520	A572-65 (65 ksi)
L5	33.34-0.00	41.17		18	55.4388	66.0000	0.6250	2.5000	A572-65 (65 ksi)

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
LDF7-50A (1-5/8 FOAM)	B	Surface Ar (CaAa)	163.00 - 3.00	1	1	0.000 0.000	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	B	Surface Ar (CaAa)	163.00 - 3.00	1	1	0.000 0.000	1.9800		0.82

tnxTower Hudson Design Group LLC 45 Beechwood Drive North Andover, MA 01845 Phone: (978) 557-5553 FAX: (978) 336-5586	Job	CT2198	Page	2 of 10
	Project	175 ft Monopole	Date	11:45:15 08/09/18
	Client	AT&T	Designed by	kw

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	C _A A _A		Weight
						ft ² /ft	plf	
LDF7-50A (1-5/8 FOAM)	B	No	Inside Pole	173.00 - 3.00	13	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
LDF7-50A (1-5/8 FOAM)	B	No	Inside Pole	163.00 - 3.00	12	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
LDF7-50A (1-5/8 FOAM)	B	No	Inside Pole	153.00 - 3.00	12	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82

LDF7-50A (1-5/8 FOAM) (AT&T - existing)	B	No	Inside Pole	145.00 - 3.00	12	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
WR-VG122ST-BRDA	B	No	Inside Pole	145.00 - 3.00	2	No Ice	0.00	0.25
						1/2" Ice	0.00	0.25
						1" Ice	0.00	0.25
FB-L98B-002	B	No	Inside Pole	145.00 - 3.00	1	No Ice	0.00	0.25
						1/2" Ice	0.00	0.25
						1" Ice	0.00	0.25

WR-VG122ST-BRDA (AT&T - proposed)	B	No	Inside Pole	145.00 - 3.00	4	No Ice	0.00	0.25
						1/2" Ice	0.00	0.25
						1" Ice	0.00	0.25
FB-L98B-002	B	No	Inside Pole	145.00 - 3.00	2	No Ice	0.00	0.25
						1/2" Ice	0.00	0.25
						1" Ice	0.00	0.25

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement ft	C _A A _A		Weight lb
			Horz Lateral ft	Vert ft			Front ft ²	Side ft ²	
(2) ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Face	3.50	0.0000	175.00	No Ice	6.37	5.78	104.90
						1/2" Ice	6.85	6.63	162.69
						1" Ice	7.30	7.35	227.28
(2) ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Face	3.50	0.0000	175.00	No Ice	6.37	5.78	104.90
						1/2" Ice	6.85	6.63	162.69
						1" Ice	7.30	7.35	227.28
(2) ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Face	3.50	0.0000	175.00	No Ice	6.37	5.78	104.90
						1/2" Ice	6.85	6.63	162.69
						1" Ice	7.30	7.35	227.28
KRY 112 71/2	A	From Face	3.50	0.0000	175.00	No Ice	0.58	0.45	13.20
						1/2" Ice	0.69	0.54	18.69
						1" Ice	0.80	0.64	25.81
KRY 112 71/2	B	From Face	3.50	0.0000	175.00	No Ice	0.58	0.45	13.20
						1/2" Ice	0.69	0.54	18.69
						1" Ice	0.80	0.64	25.81
KRY 112 71/2	C	From Face	3.50	0.0000	175.00	No Ice	0.58	0.45	13.20
						1/2" Ice	0.69	0.54	18.69
						1" Ice	0.80	0.64	25.81

tnxTower Hudson Design Group LLC 45 Beechwood Drive North Andover, MA 01845 Phone: (978) 557-5553 FAX: (978) 336-5586	Job	CT2198	Page	3 of 10
	Project	175 ft Monopole	Date	11:45:15 08/09/18
	Client	AT&T	Designed by	kw

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Vert						
			ft	ft	°	ft	ft ²	ft ²	lb	
PiROD 15' Low Profile Platform	A	None			0.0000	172.00	No Ice 1/2" Ice 1" Ice	17.30 22.10 26.90	17.30 2030.00 2560.00	

BXA-70063-6CF-EDIN w/mount pipe	A	From Face	3.50 0.00 0.00		0.0000	162.00	No Ice 1/2" Ice 1" Ice	7.83 8.39 8.91	5.82 6.99 7.87	42.55 103.53 172.25
BXA-70063-6CF-EDIN w/mount pipe	B	From Face	3.50 0.00 0.00		0.0000	162.00	No Ice 1/2" Ice 1" Ice	7.83 8.39 8.91	5.82 6.99 7.87	42.55 103.53 172.25
BXA-70063-6CF-EDIN w/mount pipe	C	From Face	3.50 0.00 0.00		0.0000	162.00	No Ice 1/2" Ice 1" Ice	7.83 8.39 8.91	5.82 6.99 7.87	42.55 103.53 172.25
Andrew LNX-6514DS-VTM w/mount pipe	A	From Face	3.50 6.00 0.00		0.0000	162.00	No Ice 1/2" Ice 1" Ice	8.40 8.95 9.48	7.07 8.25 9.15	63.95 132.95 209.97
Andrew LNX-6514DS-VTM w/mount pipe	B	From Face	3.50 6.00 0.00		0.0000	162.00	No Ice 1/2" Ice 1" Ice	8.40 8.95 9.48	7.07 8.25 9.15	63.95 132.95 209.97
Andrew LNX-6514DS-VTM w/mount pipe	C	From Face	3.50 6.00 0.00		0.0000	162.00	No Ice 1/2" Ice 1" Ice	8.40 8.95 9.48	7.07 8.25 9.15	63.95 132.95 209.97
HBXX-6517DS-VTM w/ Mount Pipe	A	From Face	3.50 4.00 0.00		0.0000	162.00	No Ice 1/2" Ice 1" Ice	8.71 9.26 9.79	6.91 8.10 9.01	66.35 135.34 212.45
HBXX-6517DS-VTM w/ Mount Pipe	B	From Face	3.50 4.00 0.00		0.0000	162.00	No Ice 1/2" Ice 1" Ice	8.71 9.26 9.79	6.91 8.10 9.01	66.35 135.34 212.45
HBXX-6517DS-VTM w/ Mount Pipe	C	From Face	3.50 4.00 0.00		0.0000	162.00	No Ice 1/2" Ice 1" Ice	8.71 9.26 9.79	6.91 8.10 9.01	66.35 135.34 212.45
HBXX-6517DS-VTM w/ Mount Pipe	A	From Face	3.50 -4.00 0.00		0.0000	162.00	No Ice 1/2" Ice 1" Ice	8.71 9.26 9.79	6.91 8.10 9.01	66.35 135.34 212.45
HBXX-6517DS-VTM w/ Mount Pipe	B	From Face	3.50 -4.00 0.00		0.0000	162.00	No Ice 1/2" Ice 1" Ice	8.71 9.26 9.79	6.91 8.10 9.01	66.35 135.34 212.45
HBXX-6517DS-VTM w/ Mount Pipe	C	From Face	3.50 -4.00 0.00		0.0000	162.00	No Ice 1/2" Ice 1" Ice	8.71 9.26 9.79	6.91 8.10 9.01	66.35 135.34 212.45
RRH2x60 PCS	A	From Face	3.50 4.00 0.00		0.0000	162.00	No Ice 1/2" Ice 1" Ice	2.15 2.34 2.54	1.35 1.50 1.67	55.00 72.75 93.35
RRH2x60 PCS	B	From Face	3.50 4.00 0.00		0.0000	162.00	No Ice 1/2" Ice 1" Ice	2.15 2.34 2.54	1.35 1.50 1.67	55.00 72.75 93.35
RRH2x60 PCS	C	From Face	3.50 4.00 0.00		0.0000	162.00	No Ice 1/2" Ice 1" Ice	2.15 2.34 2.54	1.35 1.50 1.67	55.00 72.75 93.35
RRH2X40-07-U	A	From Face	3.50 0.00 0.00		0.0000	162.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	1.03 1.17 1.31	50.00 66.78 86.25
RRH2X40-07-U	B	From Face	3.50 0.00 0.00		0.0000	162.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	1.03 1.17 1.31	50.00 66.78 86.25
RRH2X40-07-U	C	From Face	3.50 0.00		0.0000	162.00	No Ice 1/2" Ice	1.96 2.14	1.03 1.17	50.00 66.78

tnxTower Hudson Design Group LLC 45 Beechwood Drive North Andover, MA 01845 Phone: (978) 557-5553 FAX: (978) 336-5586	Job	CT2198	Page	4 of 10
	Project	175 ft Monopole	Date	11:45:15 08/09/18
	Client	AT&T	Designed by	kw

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Vert						
			ft	ft	°	ft	ft ²	ft ²	lb	
RRH2X40 AWS	A	From Face	0.00		0.0000	162.00	1" Ice	2.32	1.31	86.25
			3.50				No Ice	2.16	1.42	44.00
			-4.00				1/2" Ice	2.36	1.59	61.40
RRH2X40 AWS	B	From Face	0.00		0.0000	162.00	1" Ice	2.57	1.77	81.69
			3.50				No Ice	2.16	1.42	44.00
			-4.00				1/2" Ice	2.36	1.59	61.40
RRH2X40 AWS	C	From Face	0.00		0.0000	162.00	1" Ice	2.57	1.77	81.69
			3.50				No Ice	2.16	1.42	44.00
			-4.00				1/2" Ice	2.36	1.59	61.40
RFS DB-B1-6C-8AB-0Z	A	From Face	0.00		0.0000	162.00	1" Ice	2.57	1.77	81.69
			3.50				No Ice	4.80	2.00	44.00
			-4.00				1/2" Ice	5.07	2.19	80.13
RFS DB-B1-6C-8AB-0Z	C	From Face	0.00		0.0000	162.00	1" Ice	5.35	2.39	120.22
			3.50				No Ice	4.80	2.00	44.00
			-4.00				1/2" Ice	5.07	2.19	80.13
PiROD 15' Low Profile Platform	A	None	0.00		0.0000	162.00	1" Ice	5.35	2.39	120.22
							No Ice	17.30	17.30	1500.00
							1/2" Ice	22.10	22.10	2030.00

APXV18-206516S-C-A20 w/mount pipe	A	From Face	0.00		0.0000	152.00	1" Ice	26.90	26.90	2560.00
			3.50				No Ice	4.00	3.45	41.50
			-5.00				1/2" Ice	4.47	4.28	77.56
APXV18-206516S-C-A20 w/mount pipe	B	From Face	0.00		0.0000	152.00	1" Ice	4.91	4.98	119.60
			3.50				No Ice	4.00	3.45	41.50
			-5.00				1/2" Ice	4.47	4.28	77.56
APXV18-206516S-C-A20 w/mount pipe	C	From Face	0.00		0.0000	152.00	1" Ice	4.91	4.98	119.60
			3.50				No Ice	4.00	3.45	41.50
			-5.00				1/2" Ice	4.47	4.28	77.56
APXV18-206516S-C-A20 w/mount pipe	A	From Face	0.00		0.0000	152.00	1" Ice	4.91	4.98	119.60
			3.50				No Ice	4.00	3.45	41.50
			5.00				1/2" Ice	4.47	4.28	77.56
APXV18-206516S-C-A20 w/mount pipe	B	From Face	0.00		0.0000	152.00	1" Ice	4.91	4.98	119.60
			3.50				No Ice	4.00	3.45	41.50
			5.00				1/2" Ice	4.47	4.28	77.56
APXV18-206516S-C-A20 w/mount pipe	C	From Face	0.00		0.0000	152.00	1" Ice	4.91	4.98	119.60
			3.50				No Ice	4.00	3.45	41.50
			5.00				1/2" Ice	4.47	4.28	77.56

PiROD 15' Low Profile Platform	A	None	0.00		0.0000	152.00	1" Ice	4.91	4.98	119.60
							No Ice	17.30	17.30	1500.00
							1/2" Ice	22.10	22.10	2030.00

Powerwave 7770 w/mount pipe (AT&T - existing)	A	From Face	0.00		0.0000	145.00	1" Ice	6.42	5.42	155.38
			3.50				No Ice	5.65	4.10	57.25
			-6.00				1/2" Ice	6.03	4.75	103.17
Powerwave 7770 w/mount pipe	B	From Face	0.00		0.0000	145.00	1" Ice	6.42	5.42	155.38
			3.50				No Ice	5.65	4.10	57.25
			-6.00				1/2" Ice	6.03	4.75	103.17
Powerwave 7770 w/mount pipe	C	From Face	0.00		0.0000	145.00	1" Ice	6.42	5.42	155.38
			3.50				No Ice	5.65	4.10	57.25
			-6.00				1/2" Ice	6.03	4.75	103.17
SBNHH-1D65A w/ Mount Pipe	A	From Face	0.00		0.0000	145.00	1" Ice	7.22	6.93	173.23
			3.50				No Ice	6.28	5.34	55.90
			-2.00				1/2" Ice	6.76	6.20	111.21
HPA-65R-BUU-H6 w/mount pipe	B	From Face	0.00		0.0000	145.00	1" Ice	7.22	6.93	173.23
			3.50				No Ice	9.72	7.15	68.55
			-2.00				1/2" Ice	10.29	8.33	144.37
			0.00				1" Ice	10.83	9.23	228.36

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Vert					
			ft	ft	°	ft	ft ²	ft ²	lb
HPA-65R-BUU-H6 w/mount pipe	C	From Face	3.50	0.0000		145.00	No Ice 9.72	7.15	68.55
			-2.00				1/2" Ice 10.29	8.33	144.37
			0.00				1" Ice 10.83	9.23	228.36
Ericsson RRUS-11	A	From Leg	1.00	0.0000		145.00	No Ice 2.79	1.19	50.70
			0.00				1/2" Ice 3.00	1.34	71.57
			0.00				1" Ice 3.21	1.50	95.48
Ericsson RRUS-11	B	From Leg	1.00	0.0000		145.00	No Ice 2.79	1.19	50.70
			0.00				1/2" Ice 3.00	1.34	71.57
			0.00				1" Ice 3.21	1.50	95.48
Ericsson RRUS-11	C	From Leg	1.00	0.0000		145.00	No Ice 2.79	1.19	50.70
			0.00				1/2" Ice 3.00	1.34	71.57
			0.00				1" Ice 3.21	1.50	95.48
B25 4415	A	From Leg	1.00	0.0000		145.00	No Ice 1.65	0.93	60.00
			0.00				1/2" Ice 1.81	1.05	74.37
			0.00				1" Ice 1.98	1.19	91.23
B25 4415	B	From Leg	1.00	0.0000		145.00	No Ice 1.65	0.93	60.00
			0.00				1/2" Ice 1.81	1.05	74.37
			0.00				1" Ice 1.98	1.19	91.23
B25 4415	C	From Leg	1.00	0.0000		145.00	No Ice 1.65	0.93	60.00
			0.00				1/2" Ice 1.81	1.05	74.37
			0.00				1" Ice 1.98	1.19	91.23
TMA DTMABP7819VG12A	A	From Face	2.50	0.0000		145.00	No Ice 0.98	0.34	19.20
			-6.00				1/2" Ice 1.10	0.42	26.50
			0.00				1" Ice 1.23	0.51	35.65
TMA DTMABP7819VG12A	B	From Face	2.50	0.0000		145.00	No Ice 0.98	0.34	19.20
			-6.00				1/2" Ice 1.10	0.42	26.50
			0.00				1" Ice 1.23	0.51	35.65
TMA DTMABP7819VG12A	C	From Face	2.50	0.0000		145.00	No Ice 0.98	0.34	19.20
			-6.00				1/2" Ice 1.10	0.42	26.50
			0.00				1" Ice 1.23	0.51	35.65
DC6-48-60-18-8C	A	From Leg	2.00	0.0000		145.00	No Ice 0.79	0.79	20.00
			0.00				1/2" Ice 1.27	1.27	35.12
			0.00				1" Ice 1.45	1.45	52.57
PiROD 15' Platform with handrail	A	None		0.0000		145.00	No Ice 33.80	33.80	2043.00
							1/2" Ice 43.60	43.60	2748.00
							1" Ice 53.40	53.40	3453.00

Quintel QS46512-2 w/mount pipe	A	From Face	3.50	0.0000		145.00	No Ice 5.95	6.51	96.90
			3.00				1/2" Ice 6.44	7.35	157.87
			0.00				1" Ice 6.89	8.07	225.55
(AT&T - proposed)									
Quintel QS66512-2 w/mpount pipe	B	From Face	3.50	0.0000		145.00	No Ice 8.61	8.70	140.20
			3.00				1/2" Ice 9.27	9.99	218.50
			0.00				1" Ice 9.90	11.12	305.14
Quintel QS66512-2 w/mpount pipe	C	From Face	3.50	0.0000		145.00	No Ice 8.61	8.70	140.20
			3.00				1/2" Ice 9.27	9.99	218.50
			0.00				1" Ice 9.90	11.12	305.14
DBCT108F1V92-1	A	From Face	2.50	0.0000		145.00	No Ice 0.61	0.32	13.00
			3.00				1/2" Ice 0.71	0.40	18.06
			0.00				1" Ice 0.82	0.48	24.67
DBCT108F1V92-1	B	From Face	2.50	0.0000		145.00	No Ice 0.61	0.32	13.00
			3.00				1/2" Ice 0.71	0.40	18.06
			0.00				1" Ice 0.82	0.48	24.67
DBCT108F1V92-1	C	From Face	2.50	0.0000		145.00	No Ice 0.61	0.32	13.00
			3.00				1/2" Ice 0.71	0.40	18.06
			0.00				1" Ice 0.82	0.48	24.67
Ericsson RRUS-32	A	From Face	2.50	0.0000		145.00	No Ice 3.31	2.42	77.00
			-2.00				1/2" Ice 3.56	2.64	104.93

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
			ft	ft	°	ft	ft ²	ft ²	lb
Ericsson RRUS-32	B	From Face	0.00		0.0000	145.00	1" Ice	2.86	136.47
			2.50				No Ice	2.42	77.00
			-2.00				1/2" Ice	2.64	104.93
Ericsson RRUS-32	C	From Face	0.00		0.0000	145.00	1" Ice	2.86	136.47
			2.50				No Ice	2.42	77.00
			-2.00				1/2" Ice	2.64	104.93
RRH 4426	A	From Face	0.00		0.0000	145.00	1" Ice	2.86	136.47
			2.50				No Ice	2.66	64.00
			3.00				1/2" Ice	1.77	84.35
RRH 4426	B	From Face	0.00		0.0000	145.00	1" Ice	1.96	107.85
			2.50				No Ice	1.59	64.00
			3.00				1/2" Ice	1.77	84.35
RRH 4426	C	From Face	0.00		0.0000	145.00	1" Ice	1.96	107.85
			2.50				No Ice	1.59	64.00
			3.00				1/2" Ice	1.77	84.35
DC6-48-60-18-8C	B	From Leg	0.00		0.0000	145.00	1" Ice	1.96	107.85
			2.00				No Ice	0.79	20.00
			0.00				1/2" Ice	1.27	35.12
DC6-48-60-18-8C	C	From Leg	0.00		0.0000	145.00	1" Ice	1.45	52.57
			2.00				No Ice	0.79	20.00
			0.00				1/2" Ice	1.27	35.12
			0.00				1" Ice	1.45	52.57

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp

<p style="text-align: center;">tnxTower</p> <p style="text-align: center;">Hudson Design Group LLC 45 Beechwood Drive North Andover, MA 01845 Phone: (978) 557-5553 FAX: (978) 336-5586</p>	Job	CT2198	Page	7 of 10
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Comb. No.	Description
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Pole	Max. Vert	26	119398.15	-0.00	-0.00
	Max. H _x	20	79956.27	50401.17	24.59
	Max. H _z	2	79956.27	24.59	50578.32
	Max. M _x	2	6241938.00	24.59	50578.32
	Max. M _z	8	6214660.18	-50401.17	-24.59
	Max. Torsion	19	2606.01	43636.39	-25267.86
	Min. Vert	19	59967.20	43636.39	-25267.86
	Min. H _x	8	79956.27	-50401.17	-24.59
	Min. H _z	14	79956.27	-24.59	-50578.32
	Min. M _x	14	-6242496.03	-24.59	-50578.32
	Min. M _z	20	-6213299.94	50401.17	24.59
	Min. Torsion	7	-2606.82	-43636.39	25267.86

Tower Mast Reaction Summary

Load Combination	Vertical lb	Shear _x lb	Shear _z lb	Overturning Moment, M _x lb-ft	Overturning Moment, M _z lb-ft	Torque lb-ft
Dead Only	66630.23	0.00	0.00	215.69	-549.80	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	79956.27	-24.59	-50578.32	-6241938.00	4594.24	1247.55
0.9 Dead+1.6 Wind 0 deg - No Ice	59967.20	-24.59	-50578.31	-6195846.28	4716.32	1248.85
1.2 Dead+1.6 Wind 30 deg - No Ice	79956.27	25179.28	-43789.80	-5403038.85	-3103086.27	2223.19

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<i>Load Combination</i>	<i>Vertical</i> <i>lb</i>	<i>Shear_x</i> <i>lb</i>	<i>Shear_z</i> <i>lb</i>	<i>Overturning Moment, M_x</i> <i>lb-ft</i>	<i>Overturning Moment, M_z</i> <i>lb-ft</i>	<i>Torque</i> <i>lb-ft</i>
Ice						
0.9 Dead+1.6 Wind 30 deg - No Ice	59967.20	25179.28	-43789.80	-5363151.49	-3079986.29	2226.11
1.2 Dead+1.6 Wind 60 deg - No Ice	79956.27	43636.39	-25267.86	-3116307.60	-5379508.19	2603.05
0.9 Dead+1.6 Wind 60 deg - No Ice	59967.20	43636.39	-25267.86	-3093337.07	-5339571.41	2606.82
1.2 Dead+1.6 Wind 90 deg - No Ice	79956.27	50401.17	24.59	5537.83	-6214660.18	2285.12
0.9 Dead+1.6 Wind 90 deg - No Ice	59967.20	50401.16	24.59	5415.22	-6168545.62	2288.68
1.2 Dead+1.6 Wind 120 deg - No Ice	79956.27	43660.97	25310.45	3125964.09	-5384765.14	1354.56
0.9 Dead+1.6 Wind 120 deg - No Ice	59967.20	43660.97	25310.45	3102761.11	-5344775.79	1357.01
1.2 Dead+1.6 Wind 150 deg - No Ice	79956.27	25332.01	44005.17	5435237.31	-3127450.53	61.23
0.9 Dead+1.6 Wind 150 deg - No Ice	59967.20	25332.01	44005.16	5394964.22	-3104151.70	61.91
1.2 Dead+1.6 Wind 180 deg - No Ice	79956.27	24.59	50578.32	6242496.03	-5944.09	-1248.10
0.9 Dead+1.6 Wind 180 deg - No Ice	59967.20	24.59	50578.31	6196255.56	-5720.11	-1249.39
1.2 Dead+1.6 Wind 210 deg - No Ice	79956.27	-25179.28	43789.80	5403587.22	3101742.97	-2222.86
0.9 Dead+1.6 Wind 210 deg - No Ice	59967.20	-25179.28	43789.80	5363553.64	3078987.32	-2225.80
1.2 Dead+1.6 Wind 240 deg - No Ice	79956.27	-43636.39	25267.86	3116845.51	5378159.68	-2602.26
0.9 Dead+1.6 Wind 240 deg - No Ice	59967.20	-43636.39	25267.86	3093731.49	5338568.58	-2606.01
1.2 Dead+1.6 Wind 270 deg - No Ice	79956.27	-50401.17	-24.59	-5000.67	6213299.94	-2284.58
0.9 Dead+1.6 Wind 270 deg - No Ice	59967.20	-50401.16	-24.59	-5021.37	6167534.13	-2288.15
1.2 Dead+1.6 Wind 300 deg - No Ice	79956.27	-43660.97	-25310.45	-3125417.33	5383398.38	-1354.82
0.9 Dead+1.6 Wind 300 deg - No Ice	59967.20	-43660.97	-25310.45	-3102360.15	5343759.49	-1357.29
1.2 Dead+1.6 Wind 330 deg - No Ice	79956.27	-25332.01	-44005.17	-5434680.16	3126089.02	-62.10
0.9 Dead+1.6 Wind 330 deg - No Ice	59967.20	-25332.01	-44005.16	-5394555.59	3103139.28	-62.75
1.2 Dead+1.0 Ice+1.0 Temp	119398.15	0.00	0.00	-911.61	-5152.00	-0.12
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	119398.15	-7.32	-9640.61	-1178328.23	-4153.91	185.01
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	119398.15	4805.95	-8345.35	-1019914.38	-591716.39	324.00
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	119398.15	8331.47	-4813.96	-588446.54	-1022197.89	376.16
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	119398.15	9624.58	7.32	464.06	-1180251.07	327.51
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	119398.15	8338.79	4826.65	589019.22	-1023525.52	191.10
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	119398.15	4818.63	8352.67	1019515.97	-594015.73	3.48
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	119398.15	7.32	9640.61	1176603.01	-6808.46	-185.07
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	119398.15	-4805.95	8345.35	1018188.88	580754.54	-324.06
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	119398.15	-8331.47	4813.96	586720.43	1011236.06	-376.22

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Load Combination	Vertical lb	Shear _x lb	Shear _z lb	Overturning Moment, M _x lb-ft	Overturning Moment, M _z lb-ft	Torque lb-ft
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 270	119398.15	-9624.58	-7.32	-2190.48	1169288.72	-327.59
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 300	119398.15	-8338.79	-4826.65	-590745.36	1012562.65	-191.19
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 330	119398.15	-4818.63	-8352.67	-1021241.51	583052.84	-3.56
deg+1.0 Ice+1.0 Temp						
Dead+Wind 0 deg - Service	66630.23	-3.44	-7070.98	-868897.48	167.51	175.88
Dead+Wind 30 deg - Service	66630.23	3520.13	-6121.93	-752089.81	-432526.46	313.45
Dead+Wind 60 deg - Service	66630.23	6100.48	-3532.51	-433697.98	-749476.98	367.02
Dead+Wind 90 deg - Service	66630.23	7046.22	3.44	965.26	-865757.28	322.25
Dead+Wind 120 deg - Service	66630.23	6103.92	3538.47	435432.15	-750210.04	191.12
Dead+Wind 150 deg - Service	66630.23	3541.48	6152.04	756969.38	-435921.83	8.79
Dead+Wind 180 deg - Service	66630.23	3.44	7070.98	869362.39	-1298.43	-175.89
Dead+Wind 210 deg - Service	66630.23	-3520.13	6121.93	752554.56	431395.64	-313.44
Dead+Wind 240 deg - Service	66630.23	-6100.48	3532.51	434162.56	748346.08	-367.01
Dead+Wind 270 deg - Service	66630.23	-7046.22	-3.44	-500.69	864626.19	-322.24
Dead+Wind 300 deg - Service	66630.23	-6103.92	-3538.47	-434967.42	749078.84	-191.14
Dead+Wind 330 deg - Service	66630.23	-3541.48	-6152.04	-756504.49	434790.72	-8.81

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	175 - 154.87	12.7526	44	0.6523	0.0015
L2	159.12 - 116.29	10.6003	44	0.6360	0.0014
L3	121.71 - 74.17	6.0444	44	0.4967	0.0006
L4	80.84 - 33.34	2.5537	44	0.3065	0.0003
L5	41.17 - 0	0.6502	44	0.1420	0.0001

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
175.00	(2) ERICSSON AIR 21 B2A B4P w/ Mount Pipe	44	12.7526	0.6523	0.0015	95432
172.00	PiROD 15' Low Profile Platform	44	12.3430	0.6504	0.0015	95432
162.00	BXA-70063-6CF-EDIN w/mount pipe	44	10.9862	0.6406	0.0014	36757
152.00	APXV18-206516S-C-A20 w/mount pipe	44	9.6616	0.6194	0.0013	22800
145.00	Powerwave 7770 w/mount pipe	44	8.7646	0.5970	0.0011	18417

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	φP _{allow} lb	% Capacity	Pass Fail
-------------	-----------------	----------------	------	------------------	---------	---------------------------	------------	-----------

<i>tnxTower</i> Hudson Design Group LLC 45 Beechwood Drive North Andover, MA 01845 Phone: (978) 557-5553 FAX: (978) 336-5586	Job	CT2198	Page	10 of 10
	Project	175 ft Monopole	Date	11:45:15 08/09/18
	Client	AT&T	Designed by	kw

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail	
L1	175 - 154.87	Pole	TP29.45x24.21x0.1875	1	-5928.78	1088510.00	17.6	Pass	
L2	154.87 - 116.29	Pole	TP38.99x27.9687x0.375	2	-19530.40	3291380.00	44.6	Pass	
L3	116.29 - 74.17	Pole	TP49.07x36.8453x0.5	3	-34227.80	5524470.00	49.6	Pass	
L4	74.17 - 33.34	Pole	TP58.58x46.3548x0.563	4	-53818.10	7434930.00	50.9	Pass	
L5	33.34 - 0	Pole	TP66x55.4388x0.625	5	-79936.30	9525500.00	49.9	Pass	
							Summary		
							Pole (L4)	50.9	Pass
							RATING =	50.9	Pass

Stiffened or Unstiffened, UngROUTed, Circular Base Plate - Any Rod Material

TIA Rev G Assumption: Clear space between bottom of leveling nut and top of concrete **not** exceeding $(1) \times (\text{Rod Diameter})$

Site Data

BU#:	CT2198
Site Name:	0
App #:	0
Pole Manufacturer:	Other

Anchor Rod Data

Qty:	32	
Diam:	2.25	in
Rod Material:	A615-J	
Strength (Fu):	100	ksi
Yield (Fy):	75	ksi
Bolt Circle:	75	in

Plate Data

Diam:	81	in
Thick:	2.5	in
Grade:	60	ksi
Single-Rod B-eff:	6.55	in

Stiffener Data (Welding at both sides)

Config:	0	*
Weld Type:		
Groove Depth:		<-- Disregard
Groove Angle:		<-- Disregard
Fillet H. Weld:		in
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

Pole Data

Diam:	66	in
Thick:	0.625	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None

Reactions

Mu:	6271	ft-kips
Axial, Pu:	80	kips
Shear, Vu:	51	kips
Eta Factor, η	0.5	TIA G (Fig. 4-4)

If No stiffeners, Criteria: **AISC LRFD** <-Only Applicable to Unstiffened Cases

Anchor Rod Results

Max Rod ($C_u + V_u/\eta$): 131.1 Kips
 Allowable Axial, $\phi * F_u * A_{net}$: 260.0 Kips
 Anchor Rod Stress Ratio: 50.4% **Pass**

Rigid
AISC LRFD
$\phi * T_n$

Base Plate Results

Base Plate Stress: 34.4 ksi
 Allowable Plate Stress: 54.0 ksi
 Base Plate Stress Ratio: 63.7% **Pass**

Flexural Check

Rigid
AISC LRFD
$\phi * F_y$
Y.L. Length:
35.62

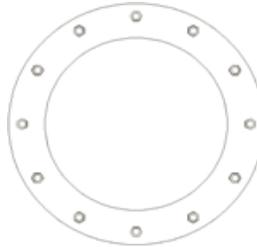
n/a

Stiffener Results

Horizontal Weld : n/a
 Vertical Weld: n/a
 Plate Flex+Shear, $f_b/F_b + (f_v/F_v)^2$: n/a
 Plate Tension+Shear, $f_t/F_t + (f_v/F_v)^2$: n/a
 Plate Comp. (AISC Bracket): n/a

Pole Results

Pole Punching Shear Check: n/a



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Monopole Pier and Pad Foundation

BU # : CT2198

Site Name:

App. Number:

TIA-222 Revision: G

Design Reactions		
Shear, S:	51	kips
Moment, M:	6271	ft-kips
Tower Height, H:	175	ft
Tower Weight, Wt:	80	kips
Base Diameter, BD:	5.50	ft

Foundation Dimensions		
Depth, D:	4.5	ft
Pad Width, W:	34	ft
Neglected Depth, N:	3.3	ft
Thickness, T:	3.00	ft
Pier Diameter, Pd:	8.00	ft
Ext. Above Grade, E:	1.00	ft
BP Dist. Above Pier:	3	in.
Clear Cover, Cc:	3.0	in

Soil Properties		
Soil Unit Weight, γ:	0.100	kcf
Ult. Bearing Capacity, Bc:	12.0	ksf
Angle of Friction, Φ:	30	deg
Cohesion, Co:	0.000	ksf
Passive Pressure, Pp:	0.000	ksf
Base Friction, μ:	0.45	

Material Properties		
Rebar Yield Strength, Fy:	60000	psi
Concrete Strength, F'c:	4000	psi
Concrete Unit Weight, δc:	0.150	kcf
Seismic Zone, z:	2	

Rebar Properties		
Pier Rebar Size, Sp:	9	
Pier Rebar Quantity, mp:	60	37
Pad Rebar Size, Spad:	9	
Pad Rebar Quantity, mpad:	36	16
Pier Tie Size, St:	4	3
Tie Quantity, mt:	5	6

Design Checks			
	Capacity/ Availability	Demand/ Limits	Check
<i>Req'd Pier Diam.(ft)</i>	8	7.5	OK
<i>Overtuning (ft-kips)</i>	10909.01	6271.00	57.5%
<i>Shear Capacity (kips)</i>	267.94	51.00	19.0%
<i>Bearing (ksf)</i>	9.00	1.60	17.8%
<i>Pad Shear - 1-way (kips)</i>	1255.48	500.78	39.9%
<i>Pad Shear - 2-way (kips)</i>	2483.22	121.47	4.9%
<i>Pad Moment Capacity (k-ft)</i>	5128.51	2494.11	48.6%
<i>Pier Moment Capacity (k-ft)</i>	9815.92	6398.50	65.2%

June 20, 2018
June 25, 2018 (Rev.1)
June 28, 2018 (Rev.2)
August 31, 2018 (Rev.3)



SAI Communications
12 Industrial Way
Salem NH, 03079

RE: Site Number: CT2198 (LTE 3C/4C/5C/6C)
 FA Number: 10035430
 PACE Number: MRCTB030942
 PT Number: 2051A0GHYW
 Site Name: Old Lymeboggyhill Road (CT2198)
 Site Address: 62-1 Boggy Hole Road
 Old Lyme, CT 06371

To Whom It May Concern:

Hudson Design Group LLC (HDG) has been authorized by SAI Communications to perform a mount analysis on the existing AT&T antenna/RRH mount to determine their capability of supporting the following additional loading:

- (3) 7770 Antennas (55.0"x11.0"x5.0" – Wt. = 35 lbs. /each)
- (2) HPA-65R-BUU-H6 Antennas (72.0"x14.8"x7.4" – Wt. = 51 lbs. /each)
- (1) SBNHH-1D65A Antennas (55.0"x11.9"x7.1" – Wt. = 41 lbs. /each)
- (3) RRUS-11 RRH's (19.7"x17.0"x7.2" – Wt. = 51 lbs. /each)
- (3) RRUS 4415 B25 RRH's (16.5"x13.4"x5.9" – Wt. = 46 lbs. /each)
- (3) DTMABP7819VG12A TMA's (10.6"x11.0"x3.8" – Wt. = 19 lbs. /each)
- (1) Squid Surge Arrestor (24.0"x9.7" Φ – Wt. = 33 lbs. /each) (Tower Mount)
- **(1) QS46512-2 Antennas (52.0"x12.0"x10.8" – Wt. = 75 lbs. /each)**
- **(2) QS66512-2 Antennas (72.0"x12.0"x9.6" – Wt. = 111 lbs. /each)**
- **(3) RRUS-32 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)**
- **(3) RRUS 4426 B66 RRH's (15.0"x13.2"x7.4" – Wt. = 49 lbs. /each)**
- **(3) DBCT108F1V92-1 Diplexers (10.7"x6.7"x7.1" – Wt. = 33 lbs. /each)**
- **(2) Squid Surge Arrestor (24.0"x9.7" Φ – Wt. = 33 lbs. /each) (Tower Mount)**

**Proposed equipment shown in bold*

No original structural design documents or fabrication drawings were available for the existing mounts. A mapping of the existing AT&T antenna mount was conducted on April 6, 2016.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-G, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2012 with 2005 Connecticut Supplement with 2016 Amendments, and AT&T Mount Technical Directive – R7.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-G Annex B, the max basic wind speed for this site is equal to 120 mph with a max basic wind speed with ice of 50 mph. Per the AT&T Mount Technical Directive and Appendix N of the Connecticut State Building Code, an ultimate wind speed of 135 mph converted to a nominal wind speed of 105 mph was used for this analysis.
- HDG considers this site to be exposure category B; tower is located in an urban/suburban or wooded area with numerous closely spaced obstructions.
- HDG considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.
- The mount has been analyzed with load combinations consisting of 500 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 2.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.

Based on our evaluation, we have determined that the existing mount **IS CAPABLE** of supporting the proposed installation. HDG recommends the following modifications:

- **Install new SitePro1 P/N HRK14 handrail kit (or approved equal). Handrail kit is required per AT&T Technical Directive to stabilize existing antenna.**

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing Mount Rating	26,37	LC2	69%	PASS
Proposed Mount Rating	20	LC1	42%	PASS

Reference Documents:

- Mount mapping report prepared by SAI Communications.

This determination was based on the following limitations and assumptions:

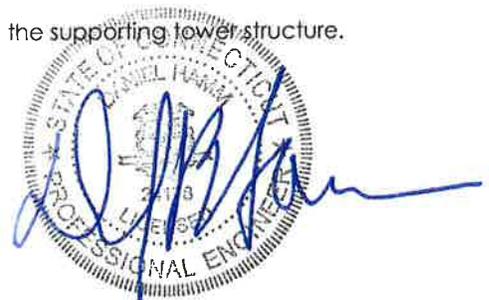
1. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.
2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
3. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.
4. The existing mount has been adequately secured to the tower structure per the mount manufacturer's specifications.
5. All components pertaining to AT&T's mounts must be tightened and re-plumbed prior to the installation of new appurtenances.
6. HDG performed a localized analysis on the mount itself and not on the supporting tower structure.

Please feel free to contact our office should you have any questions.

Respectfully Submitted,
Hudson Design Group LLC

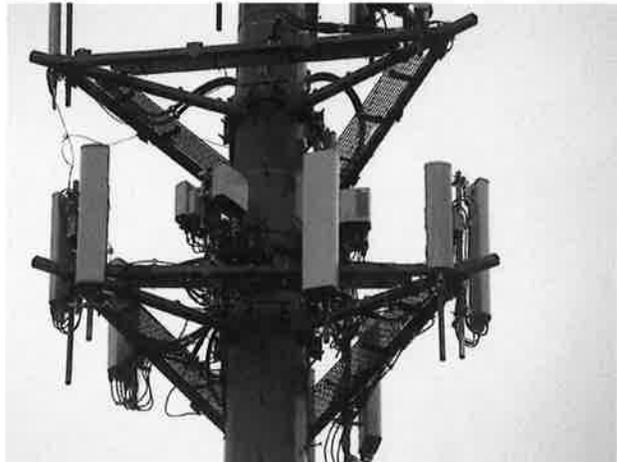


Michael Cabral
Structural Dept. Head



Daniel P. Hamm, PE
Principal

FIELD PHOTOS:





HUDSON
Design Group LLC

**Wind & Ice
Calculations**

Date: 8/31/2018
 Project Name: OLD LYMEBOGGYHILL ROAD
 Project Number: CT2198
 Designed By: JN Checked By: MSC



2.6.5.2 Velocity Pressure Coeff:

$$K_z = 2.01 (z/z_g)^{2/\alpha}$$

z = 145 (ft)
 z_g = 1200 (ft)
 α = 7.0

K_z = 1.099

K_{zmin} ≤ K_z ≤ 2.01

Table 2-4

Exposure	Z _g	α	K _{zmin}	K _e
B	1200 ft	7.0	0.70	0.9
C	900 ft	9.5	0.85	1.0
D	700 ft	11.5	1.03	1.1

2.6.6.4 Topographic Factor:

Table 2-5

Topo. Category	K _t	f
2	0.43	1.25
3	0.53	2.0
4	0.72	1.5

$$K_{zt} = [1 + (K_e K_t / K_h)]^2$$

$$K_h = e^{(fz/H)}$$

K_{zt} = #DIV/0!

K_h = #DIV/0!

K_e = 0 (from Table 2-4)

K_t = 0 (from Table 2-5)

f = 0 (from Table 2-5)

z = 145

H = 0 (Ht. of the crest above surrounding terrain)

K_{zt} = 1.00

K_{iz} = 1.16 (from Sec. 2.6.8)

(If Category 1 then K_{zt} = 1.0)

Category = 1

2.6.8 Design Ice Thickness

Max Ice Thickness =

t_i = 0.75 in

$$t_{iz} = 2.0 * t_i * K_{iz} * (K_{zt})^{0.35}$$

t_{iz} = 1.74 in

Date: 8/31/2018
 Project Name: OLD LYMEBOGGYHILL ROAD
 Project Number: CT2198
 Designed By: JN Checked By: MSC



2.6.7 Gust Effect Factor

2.6.7.1 Self Supporting Lattice Structures

Gh = 1.0 Latticed Structures > 600 ft

Gh = 0.85 Latticed Structures 450 ft or less

Gh = 0.85 + 0.15 [h/150 - 3.0] h = ht. of structure

h= 178 Gh= 0.85

2.6.7.2 Guyed Masts Gh= 0.85

2.6.7.3 Pole Structures Gh= 1.1

2.6.9 Appurtenances Gh= 1.0

2.6.7.4 Structures Supported on Other Structures

(Cantilevered tubular or latticed spines, pole, structures on buildings (ht. : width ratio > 5)

Gh= 1.35 Gh= 1.00

2.6.9.2 Design Wind Force on Appurtenances

State Code Ultimate Design Wind Speed: V_{ult} = 135 mph

Nomial Design Wind Speed, V_{asd} = V_{ult} √(0.6) V_{asd} = 105 mph

V_{asd} per the AT&T Mount Technical Directive and Massachusetts State Building Code, Latest Edition.

Per TIA-222-G, V_{min} = 105 mph V_{max} = 120 mph

F= q_z*Gh*(EPA)_A

q_z= 0.00256*K_z*K_{zt}*K_d*V_{max}²*I

q_z= 29.46
 q_{z (ice)}= 6.68
 q_{z (30)}= 2.41

K_z= 1.099
 K_{zt}= 1.0
 K_d= 0.95
 V_{asd}= 105 mph
 V_{max (ice)}= 50 mph
 V₃₀= 30 mph
 I= 1.0

Table 2-2

Structure Type	Wind Direction Probability Factor, Kd
Latticed structures with triangular, square or rectangular cross sections	0.85
Tubular pole structures, latticed structures with other cross sections, appurtenances	0.95

Determine Ca:

Table 2-8

Force Coefficients (Ca) for Appurtenances				
Member Type		Aspect Ratio ≤ 2.5	Aspect Ratio = 7	Aspect Ratio ≥ 25
		Ca	Ca	Ca
Flat		1.2	1.4	2.0
Round	C < 32 (Subcritical)	0.7	0.8	1.2
	32 ≤ C ≤ 64 (Transitional)	$3.76/(C^{0.485})$	$3.37/(C^{0.415})$	$38.4/(C^{1.0})$
	C > 64 (Supercritical)	0.5	0.6	0.6

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
 (Aspect ratio is independent of the spacing between support points of a linear appurtenance,
 Note: Linear interpolation may be used for aspect ratios other than those shown.

Ice Thickness = **1.74 in** Angle = **0 (deg)** Equivalent Angle = **180 (deg)**

Appurtenances	Height	Width	Depth	Flat Area	Aspect Ratio	Ca	Force (lbs)	Force (lbs) (w/ Ice)	Force (lbs) (30 mph)
7770 Antenna	55.0	11.0	5.0	4.20	5.00	1.31	162	52	13
SBNHH-1D65A Antenna	55.0	11.9	7.1	4.55	4.62	1.29	173	54	14
QS46512-2 Antenna	52.0	12.0	10.8	4.33	4.33	1.28	164	51	13
QS66512-2 Antenna	72.0	12.0	9.6	6.00	6.00	1.36	240	73	20
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.1	7.40	4.86	1.31	285	84	23
RRUS-11 RRH	19.7	17.0	7.2	2.33	1.16	1.20	82	26	7
RRUS-11 RRH (Shielded)	19.7	5.1	7.2	0.70	3.86	1.26	26	12	2
RRUS-32 RRH	27.2	12.1	7.0	2.29	2.25	1.20	81	27	7
RRUS-32 RRH (Shielded)	27.2	0.2	7.0	0.04	136.00	5.70	6	30	1
RRUS 4415 B25 RRH	16.5	13.4	5.9	1.54	1.23	1.20	54	19	4
RRUS 4415 B25 RRH (Shielded)	16.5	1.5	5.9	0.17	11.00	1.53	8	7	1
RRUS 4426 RRH	15.0	13.2	7.4	1.38	1.14	1.20	49	17	4
RRUS 4426 B66 (Shielded)	15.0	1.2	7.4	0.13	12.50	1.58	6	6	0
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.96	1.20	29	11	2
Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	33	12	3

Date: 8/31/2018

Project Name: OLD LYMEBOGGYHILL ROAD

Project Number: CT2198

Designed By: JN Checked By: MSC



WIND LOADS

Angle = 30 (deg)

Ice Thickness = 1.74 in.

Equivalent Angle = 210 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio	Aspect Ratio	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	162	86	143
SBNHH-1D65A Antenna	55.0	11.9	7.1	4.55	2.71	4.62	7.75	1.29	1.42	173	114	158
QS46512-2 Antenna	52.0	12.0	10.8	4.33	3.90	4.33	4.81	1.28	1.30	164	150	160
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	240	200	230
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.1	7.40	3.55	4.86	10.14	1.31	1.50	285	157	253
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	82	35	70
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	41	35	40
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	81	49	73
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	43	49	45
RRUS 4415 B25 RRH	16.5	13.4	5.9	1.54	0.68	1.23	2.80	1.20	1.21	54	24	47
RRUS 4415 B25 RRH (Shielded)	16.5	6.7	5.9	0.77	0.68	2.46	2.80	1.20	1.21	27	24	26
RRUS 4426 RRH	15.0	13.2	7.4	1.38	0.77	1.14	2.03	1.20	1.20	49	27	43
RRUS 4426 B66 (Shielded)	15.0	6.6	7.4	0.69	0.77	2.27	2.03	1.20	1.20	24	27	25
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.28	0.96	2.79	1.20	1.21	29	10	24

WIND LOADS WITH ICE:

7770 Antenna	58.5	14.5	8.5	5.88	3.44	4.04	6.90	1.27	1.40	50	32	45
SBNHH-1D65A Antenna	58.5	15.4	10.6	6.25	4.30	3.80	5.53	1.26	1.33	52	38	49
QS46512-2 Antenna	55.5	15.5	14.3	5.96	5.50	3.58	3.89	1.25	1.26	50	46	49
QS66512-2 Antenna	75.5	15.5	13.1	8.11	6.86	4.88	5.77	1.31	1.35	71	62	68
HPA-65R-BUU-H6 Antenna	75.5	18.3	10.6	9.58	5.54	4.13	7.14	1.27	1.40	81	52	74
RRUS-11 RRH	23.2	20.5	10.7	3.30	1.72	1.13	2.17	1.20	1.20	26	14	23
RRUS-11 RRH (Shielded)	23.2	10.2	10.7	1.65	1.72	2.26	2.17	1.20	1.20	13	14	13
RRUS-32 RRH	30.7	15.6	10.5	3.32	2.23	1.97	2.93	1.20	1.22	27	18	25
RRUS-32 RRH (Shielded)	30.7	7.8	10.5	1.66	2.23	3.94	2.93	1.26	1.22	14	18	15
RRUS 4415 B25 RRH	20.0	16.9	9.4	2.34	1.30	1.18	2.13	1.20	1.20	19	10	17
RRUS 4415 B25 RRH (Shielded)	20.0	8.4	9.4	1.17	1.30	2.37	2.13	1.20	1.20	9	10	10
RRUS 4426 RRH	18.5	16.7	10.9	2.14	1.40	1.11	1.70	1.20	1.20	17	11	16
RRUS 4426 B66 (Shielded)	18.5	8.3	10.9	1.07	1.40	2.22	1.70	1.20	1.20	9	11	9
DTMABP7819VG12A TMA	14.1	14.5	7.3	1.42	0.71	0.97	1.93	1.20	1.20	11	6	10
Surge Arrestor	27.5	13.2	13.2	2.51	2.51	2.09	2.09	1.20	1.20	20	20	20

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	13	7	12
SBNHH-1D65A Antenna	55.0	11.9	7.1	4.55	2.71	4.62	7.75	1.29	1.42	14	9	13
QS46512-2 Antenna	52.0	12.0	10.8	4.33	3.90	4.33	4.81	1.28	1.30	13	12	13
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	20	16	19
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.1	7.40	3.55	4.86	10.14	1.31	1.50	23	13	21
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	7	3	6
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	3	3	3
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	6
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	4	4	4
RRUS 4415 B25 RRH	16.5	13.4	5.9	1.54	0.68	1.23	2.80	1.20	1.21	4	2	4
RRUS 4415 B25 RRH (Shielded)	16.5	6.7	5.9	0.77	0.68	2.46	2.80	1.20	1.21	2	2	2
RRUS 4426 RRH	15.0	13.2	7.4	1.38	0.77	1.14	2.03	1.20	1.20	4	2	4
RRUS 4426 B66 (Shielded)	15.0	6.6	7.4	0.69	0.77	2.27	2.03	1.20	1.20	2	2	2
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.28	0.96	2.79	1.20	1.21	2	1	2

WIND LOADS

Angle = **60** (deg) Ice Thickness = **1.74** in. Equivalent Angle = **240** (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	162	86	105
SBNHH-1D65A Antenna	55.0	11.9	7.1	4.55	2.71	4.62	7.75	1.29	1.42	173	114	129
QS46512-2 Antenna	52.0	12.0	10.8	4.33	3.90	4.33	4.81	1.28	1.30	164	150	153
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	240	200	210
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.1	7.40	3.55	4.86	10.14	1.31	1.50	285	157	189
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	82	35	47
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	62	35	42
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	81	49	57
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	62	49	52
RRUS 4415 B25 RRH	16.5	13.4	5.9	1.54	0.68	1.23	2.80	1.20	1.21	54	24	32
RRUS 4415 B25 RRH (Shielded)	16.5	10.1	5.9	1.15	0.68	1.64	2.80	1.20	1.21	41	24	28
RRUS 4426 RRH	15.0	13.2	7.4	1.38	0.77	1.14	2.03	1.20	1.20	49	27	33
RRUS 4426 B66 (Shielded)	15.0	9.9	7.4	1.03	0.77	1.52	2.03	1.20	1.20	36	27	30
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.28	0.96	2.79	1.20	1.21	29	10	15

WIND LOADS WITH ICE:

7770 Antenna	58.5	14.5	8.5	5.88	3.44	4.04	6.90	1.27	1.40	50	32	37
SBNHH-1D65A Antenna	58.5	15.4	10.6	6.25	4.30	3.80	5.53	1.26	1.33	52	38	42
QS46512-2 Antenna	55.5	15.5	14.3	5.96	5.50	3.58	3.89	1.25	1.26	50	46	47
QS66512-2 Antenna	75.5	15.5	13.1	8.11	6.86	4.88	5.77	1.31	1.35	71	62	64
HPA-65R-BUU-H6 Antenna	75.5	18.3	10.6	9.58	5.54	4.13	7.14	1.27	1.40	81	52	59
RRUS-11 RRH	23.2	20.5	10.7	3.30	1.72	1.13	2.17	1.20	1.20	26	14	17
RRUS-11 RRH (Shielded)	23.2	15.4	10.7	2.47	1.72	1.51	2.17	1.20	1.20	20	14	15
RRUS-32 RRH	30.7	15.6	10.5	3.32	2.23	1.97	2.93	1.20	1.22	27	18	20
RRUS-32 RRH (Shielded)	30.7	11.7	10.5	2.49	2.23	2.63	2.93	1.21	1.22	20	18	19
RRUS 4415 B25 RRH	20.0	16.9	9.4	2.34	1.30	1.18	2.13	1.20	1.20	19	10	13
RRUS 4415 B25 RRH (Shielded)	20.0	12.7	9.4	1.76	1.30	1.58	2.13	1.20	1.20	14	10	11
RRUS 4426 RRH	18.5	16.7	10.9	2.14	1.40	1.11	1.70	1.20	1.20	17	11	13
RRUS 4426 B66 (Shielded)	18.5	12.5	10.9	1.61	1.40	1.48	1.70	1.20	1.20	13	11	12
DTMABP7819VG12A TMA	14.1	14.5	7.3	1.42	0.71	0.97	1.93	1.20	1.20	11	6	7
Surge Arrestor	27.5	13.2	13.2	2.51	2.51	2.09	2.09	1.20	1.20	20	20	20

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	13	7	9
SBNHH-1D65A Antenna	55.0	11.9	7.1	4.55	2.71	4.62	7.75	1.29	1.42	14	9	11
QS46512-2 Antenna	52.0	12.0	10.8	4.33	3.90	4.33	4.81	1.28	1.30	13	12	13
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	20	16	17
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.1	7.40	3.55	4.86	10.14	1.31	1.50	23	13	15
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	7	3	4
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	5	3	3
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	5
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
RRUS 4415 B25 RRH	16.5	13.4	5.9	1.54	0.68	1.23	2.80	1.20	1.21	4	2	3
RRUS 4415 B25 RRH (Shielded)	16.5	10.1	5.9	1.15	0.68	1.64	2.80	1.20	1.21	3	2	2
RRUS 4426 RRH	15.0	13.2	7.4	1.38	0.77	1.14	2.03	1.20	1.20	4	2	3
RRUS 4426 B66 (Shielded)	15.0	9.9	7.4	1.03	0.77	1.52	2.03	1.20	1.20	3	2	2
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.28	0.96	2.79	1.20	1.21	2	1	1

Date: 8/31/2018
 Project Name: OLD LYMEBOGGYHILL ROAD
 Project Number: CT2198
 Designed By: JN Checked By: MSC



WIND LOADS

Angle = 90 (deg) Ice Thickness = 1.74 in. Equivalent Angle = 270 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	162	86	86
SBNHH-1D65A Antenna	55.0	11.9	7.1	4.55	2.71	4.62	7.75	1.29	1.42	173	114	114
QS46512-2 Antenna	52.0	12.0	10.8	4.33	3.90	4.33	4.81	1.28	1.30	164	150	150
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	240	200	200
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.1	7.40	3.55	4.86	10.14	1.31	1.50	285	157	157
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	82	35	35
RRUS-11 RRH (Shielded)	19.7	5.1	7.2	0.70	0.99	3.86	2.74	1.26	1.21	26	35	35
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	81	49	49
RRUS-32 RRH (Shielded)	27.2	0.2	7.0	0.04	1.32	136.00	3.89	5.70	1.26	6	49	49
RRUS 4415 B25 RRH	16.5	13.4	5.9	1.54	0.68	1.23	2.80	1.20	1.21	54	24	24
RRUS 4415 B25 RRH (Shielded)	16.5	1.5	5.9	0.17	0.68	11.00	2.80	1.53	1.21	8	24	24
RRUS 4426 RRH	15.0	13.2	7.4	1.38	0.77	1.14	2.03	1.20	1.20	49	27	27
RRUS 4426 B66 (Shielded)	15.0	1.2	7.4	0.13	0.77	12.50	2.03	1.58	1.20	6	27	27
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.28	0.96	2.79	1.20	1.21	29	10	10

WIND LOADS WITH ICE:

7770 Antenna	58.5	14.5	8.5	5.88	3.44	4.04	6.90	1.27	1.40	50	32	32
SBNHH-1D65A Antenna	58.5	15.4	10.6	6.25	4.30	3.80	5.53	1.26	1.33	52	38	38
QS46512-2 Antenna	55.5	15.5	14.3	5.96	5.50	3.58	3.89	1.25	1.26	50	46	46
QS66512-2 Antenna	75.5	15.5	13.1	8.11	6.86	4.88	5.77	1.31	1.35	71	62	62
HPA-65R-BUU-H6 Antenna	75.5	18.3	10.6	9.58	5.54	4.13	7.14	1.27	1.40	81	52	52
RRUS-11 RRH	23.2	20.5	10.7	3.30	1.72	1.13	2.17	1.20	1.20	26	14	14
RRUS-11 RRH (Shielded)	23.2	8.6	10.7	1.38	1.72	2.70	2.17	1.21	1.20	11	14	14
RRUS-32 RRH	30.7	15.6	10.5	3.32	2.23	1.97	2.93	1.20	1.22	27	18	18
RRUS-32 RRH (Shielded)	30.7	3.7	10.5	0.78	2.23	8.34	2.93	1.44	1.22	8	18	18
RRUS 4415 B25 RRH	20.0	16.9	9.4	2.34	1.30	1.18	2.13	1.20	1.20	19	10	10
RRUS 4415 B25 RRH (Shielded)	20.0	5.0	9.4	0.69	1.30	4.01	2.13	1.27	1.20	6	10	10
RRUS 4426 RRH	18.5	16.7	10.9	2.14	1.40	1.11	1.70	1.20	1.20	17	11	11
RRUS 4426 B66 (Shielded)	18.5	4.7	10.9	0.60	1.40	3.95	1.70	1.26	1.20	5	11	11
DTMABP7819VG12A TMA	14.1	14.5	7.3	1.42	0.71	0.97	1.93	1.20	1.20	11	6	6
Surge Arrestor	27.5	13.2	13.2	2.51	2.51	2.09	2.09	1.20	1.20	20	20	20

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	13	7	7
SBNHH-1D65A Antenna	55.0	11.9	7.1	4.55	2.71	4.62	7.75	1.29	1.42	14	9	9
QS46512-2 Antenna	52.0	12.0	10.8	4.33	3.90	4.33	4.81	1.28	1.30	13	12	12
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	20	16	16
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.1	7.40	3.55	4.86	10.14	1.31	1.50	23	13	13
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	7	3	3
RRUS-11 RRH (Shielded)	19.7	5.1	7.2	0.70	0.99	3.86	2.74	1.26	1.21	2	3	3
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	4
RRUS-32 RRH (Shielded)	27.2	0.2	7.0	0.04	1.32	136.00	3.89	5.70	1.26	1	4	4
RRUS 4415 B25 RRH	16.5	13.4	5.9	1.54	0.68	1.23	2.80	1.20	1.21	4	2	2
RRUS 4415 B25 RRH (Shielded)	16.5	1.5	5.9	0.17	0.68	11.00	2.80	1.53	1.21	1	2	2
RRUS 4426 RRH	15.0	13.2	7.4	1.38	0.77	1.14	2.03	1.20	1.20	4	2	2
RRUS 4426 B66 (Shielded)	15.0	1.2	7.4	0.13	0.77	12.50	2.03	1.58	1.20	0	2	2
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.28	0.96	2.79	1.20	1.21	2	1	1

WIND LOADS

Angle = **120** (deg) Ice Thickness = **1.74** in. Equivalent Angle = **300** (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	162	86	105
SBNHH-1D65A Antenna	55.0	11.9	7.1	4.55	2.71	4.62	7.75	1.29	1.42	173	114	129
QS46512-2 Antenna	52.0	12.0	10.8	4.33	3.90	4.33	4.81	1.28	1.30	164	150	153
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	240	200	210
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.1	7.40	3.55	4.86	10.14	1.31	1.50	285	157	189
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	82	35	47
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	62	35	42
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	81	49	57
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	62	49	52
RRUS 4415 B25 RRH	16.5	13.4	5.9	1.54	0.68	1.23	2.80	1.20	1.21	54	24	32
RRUS 4415 B25 RRH (Shielded)	16.5	10.1	5.9	1.15	0.68	1.64	2.80	1.20	1.21	41	24	28
RRUS 4426 RRH	15.0	13.2	7.4	1.38	0.77	1.14	2.03	1.20	1.20	49	27	33
RRUS 4426 B66 (Shielded)	15.0	9.9	7.4	1.03	0.77	1.52	2.03	1.20	1.20	36	27	30
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.28	0.96	2.79	1.20	1.21	29	10	15

WIND LOADS WITH ICE:

7770 Antenna	58.5	14.5	8.5	5.88	3.44	4.04	6.90	1.27	1.40	50	32	37
SBNHH-1D65A Antenna	58.5	15.4	10.6	6.25	4.30	3.80	5.53	1.26	1.33	52	38	42
QS46512-2 Antenna	55.5	15.5	14.3	5.96	5.50	3.58	3.89	1.25	1.26	50	46	47
QS66512-2 Antenna	75.5	15.5	13.1	8.11	6.86	4.88	5.77	1.31	1.35	71	62	64
HPA-65R-BUU-H6 Antenna	75.5	18.3	10.6	9.58	5.54	4.13	7.14	1.27	1.40	81	52	59
RRUS-11 RRH	23.2	20.5	10.7	3.30	1.72	1.13	2.17	1.20	1.20	26	14	17
RRUS-11 RRH (Shielded)	23.2	15.4	10.7	2.47	1.72	1.51	2.17	1.20	1.20	20	14	15
RRUS-32 RRH	30.7	15.6	10.5	3.32	2.23	1.97	2.93	1.20	1.22	27	18	20
RRUS-32 RRH (Shielded)	30.7	11.7	10.5	2.49	2.23	2.63	2.93	1.21	1.22	20	18	19
RRUS 4415 B25 RRH	20.0	16.9	9.4	2.34	1.30	1.18	2.13	1.20	1.20	19	10	13
RRUS 4415 B25 RRH (Shielded)	20.0	12.7	9.4	1.76	1.30	1.58	2.13	1.20	1.20	14	10	11
RRUS 4426 RRH	18.5	16.7	10.9	2.14	1.40	1.11	1.70	1.20	1.20	17	11	13
RRUS 4426 B66 (Shielded)	18.5	12.5	10.9	1.61	1.40	1.48	1.70	1.20	1.20	13	11	12
DTMABP7819VG12A TMA	14.1	14.5	7.3	1.42	0.71	0.97	1.93	1.20	1.20	11	6	7
Surge Arrestor	27.5	13.2	13.2	2.51	2.51	2.09	2.09	1.20	1.20	20	20	20

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	13	7	9
SBNHH-1D65A Antenna	55.0	11.9	7.1	4.55	2.71	4.62	7.75	1.29	1.42	14	9	11
QS46512-2 Antenna	52.0	12.0	10.8	4.33	3.90	4.33	4.81	1.28	1.30	13	12	13
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	20	16	17
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.1	7.40	3.55	4.86	10.14	1.31	1.50	23	13	15
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	7	3	4
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	5	3	3
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	5
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
RRUS 4415 B25 RRH	16.5	13.4	5.9	1.54	0.68	1.23	2.80	1.20	1.21	4	2	3
RRUS 4415 B25 RRH (Shielded)	16.5	10.1	5.9	1.15	0.68	1.64	2.80	1.20	1.21	3	2	2
RRUS 4426 RRH	15.0	13.2	7.4	1.38	0.77	1.14	2.03	1.20	1.20	4	2	3
RRUS 4426 B66 (Shielded)	15.0	9.9	7.4	1.03	0.77	1.52	2.03	1.20	1.20	3	2	2
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.28	0.96	2.79	1.20	1.21	2	1	1

Date: 8/31/2018
 Project Name: OLD LYMEBOGGYHILL ROAD
 Project Number: C12198
 Designed By: JN Checked By: MSC



WIND LOADS

Angle = 150 (deg)

Ice Thickness = 1.74 in.

Equivalent Angle = 330 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	162	86	143
SBNHH-1D65A Antenna	55.0	11.9	7.1	4.55	2.71	4.62	7.75	1.29	1.42	173	114	158
QS46512-2 Antenna	52.0	12.0	10.8	4.33	3.90	4.33	4.81	1.28	1.30	164	150	160
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	240	200	230
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.1	7.40	3.55	4.86	10.14	1.31	1.50	285	157	253
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	82	35	70
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	41	35	40
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	81	49	73
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	43	49	45
RRUS 4415 B25 RRH	16.5	13.4	5.9	1.54	0.68	1.23	2.80	1.20	1.21	54	24	47
RRUS 4415 B25 RRH (Shielded)	16.5	6.7	5.9	0.77	0.68	2.46	2.80	1.20	1.21	27	24	26
RRUS 4426 RRH	15.0	13.2	7.4	1.38	0.77	1.14	2.03	1.20	1.20	49	27	43
RRUS 4426 B66 (Shielded)	15.0	6.6	7.4	0.69	0.77	2.27	2.03	1.20	1.20	24	27	25
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.28	0.96	2.79	1.20	1.21	29	10	24

WIND LOADS WITH ICE:

7770 Antenna	58.5	14.5	8.5	5.88	3.44	4.04	6.90	1.27	1.40	50	32	45
SBNHH-1D65A Antenna	58.5	15.4	10.6	6.25	4.30	3.80	5.53	1.26	1.33	52	38	49
QS46512-2 Antenna	55.5	15.5	14.3	5.96	5.50	3.58	3.89	1.25	1.26	50	46	49
QS66512-2 Antenna	75.5	15.5	13.1	8.11	6.86	4.88	5.77	1.31	1.35	71	62	68
HPA-65R-BUU-H6 Antenna	75.5	18.3	10.6	9.58	5.54	4.13	7.14	1.27	1.40	81	52	74
RRUS-11 RRH	23.2	20.5	10.7	3.30	1.72	1.13	2.17	1.20	1.20	26	14	23
RRUS-11 RRH (Shielded)	23.2	10.2	10.7	1.65	1.72	2.26	2.17	1.20	1.20	13	14	13
RRUS-32 RRH	30.7	15.6	10.5	3.32	2.23	1.97	2.93	1.20	1.22	27	18	25
RRUS-32 RRH (Shielded)	30.7	7.8	10.5	1.66	2.23	3.94	2.93	1.26	1.22	14	18	15
RRUS 4415 B25 RRH	20.0	16.9	9.4	2.34	1.30	1.18	2.13	1.20	1.20	19	10	17
RRUS 4415 B25 RRH (Shielded)	20.0	8.4	9.4	1.17	1.30	2.37	2.13	1.20	1.20	9	10	10
RRUS 4426 RRH	18.5	16.7	10.9	2.14	1.40	1.11	1.70	1.20	1.20	17	11	16
RRUS 4426 B66 (Shielded)	18.5	8.3	10.9	1.07	1.40	2.22	1.70	1.20	1.20	9	11	9
DTMABP7819VG12A TMA	14.1	14.5	7.3	1.42	0.71	0.97	1.93	1.20	1.20	11	6	10
Surge Arrestor	27.5	13.2	13.2	2.51	2.51	2.09	2.09	1.20	1.20	20	20	20

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	13	7	12
SBNHH-1D65A Antenna	55.0	11.9	7.1	4.55	2.71	4.62	7.75	1.29	1.42	14	9	13
QS46512-2 Antenna	52.0	12.0	10.8	4.33	3.90	4.33	4.81	1.28	1.30	13	12	13
QS66512-2 Antenna	72.0	12.0	9.6	6.00	4.80	6.00	7.50	1.36	1.42	20	16	19
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.1	7.40	3.55	4.86	10.14	1.31	1.50	23	13	21
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	7	3	6
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	3	3	3
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	6
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	4	4	4
RRUS 4415 B25 RRH	16.5	13.4	5.9	1.54	0.68	1.23	2.80	1.20	1.21	4	2	4
RRUS 4415 B25 RRH (Shielded)	16.5	6.7	5.9	0.77	0.68	2.46	2.80	1.20	1.21	2	2	2
RRUS 4426 RRH	15.0	13.2	7.4	1.38	0.77	1.14	2.03	1.20	1.20	4	2	4
RRUS 4426 B66 (Shielded)	15.0	6.6	7.4	0.69	0.77	2.27	2.03	1.20	1.20	2	2	2
DTMABP7819VG12A TMA	10.6	11.0	3.8	0.81	0.28	0.96	2.79	1.20	1.21	2	1	2

Date: 8/31/2018
 Project Name: Old Lymeboggyhill Road
 Project Number: CT2198
 Designed By: JN Checked By: MSC



ICE WEIGHT CALCULATIONS

Thickness of ice (in): 0.75
 * Density of ice used = 56 PCF

7770 Antenna

Weight of ice based on total radial SF area:
 Height (in): 55.0
 Width (in): 11.0
 Depth (in): 5.0
 Total weight of ice on object: 45 lbs
 Weight of object: 35 lbs
Combined weight of ice and object: 80 lbs

HPA-65R-BUU-H6 Antenna

Weight of ice based on total radial SF area:
 Height (in): 72.0
 Width (in): 14.8
 Depth (in): 7.4
 Total weight of ice on object: 83 lbs
 Weight of object: 51 lbs
Combined weight of ice and object: 134 lbs

SBNHH-1D65A Antenna

Weight of ice based on total radial SF area:
 Height (in): 55.0
 Width (in): 11.9
 Depth (in): 7.1
 Total weight of ice on object: 55 lbs
 Weight of object: 41 lbs
Combined weight of ice and object: 96 lbs

QS46512-2 Antenna

Weight of ice based on total radial SF area:
 Height (in): 52.0
 Width (in): 12.0
 Depth (in): 10.8
 Total weight of ice on object: 64 lbs
 Weight of object: 75 lbs
Combined weight of ice and object: 139 lbs

QS66512-2 Antenna

Weight of ice based on total radial SF area:
 Height (in): 72.0
 Width (in): 12.0
 Depth (in): 9.6
 Total weight of ice on object: 81 lbs
 Weight of object: 111 lbs
Combined weight of ice and object: 192 lbs

RRUS-11 RRH

Weight of ice based on total radial SF area:
 Height (in): 19.7
 Width (in): 17.0
 Depth (in): 7.2
 Total weight of ice on object: 29 lbs
 Weight of object: 51 lbs
Combined weight of ice and object: 80 lbs

RRUS-32 RRH

Weight of ice based on total radial SF area:
 Height (in): 27.2
 Width (in): 12.1
 Depth (in): 7.0
 Total weight of ice on object: 29 lbs
 Weight of object: 60 lbs
Combined weight of ice and object: 89 lbs

RRUS-4415 B25 RRH

Weight of ice based on total radial SF area:
 Height (in): 16.5
 Width (in): 13.4
 Depth (in): 5.9
 Total weight of ice on object: 19 lbs
 Weight of object: 46 lbs
Combined weight of ice and object: 65 lbs

RRUS 4426 B66 RRH

Weight of ice based on total radial SF area:
 Height (in): 15.0
 Width (in): 13.2
 Depth (in): 7.4
 Total weight of ice on object: 20 lbs
 Weight of object: 49 lbs
Combined weight of ice and object: 69 lbs

DTMABP7819VG12A TMA

Weight of ice based on total radial SF area:
 Height (in): 10.6
 Width (in): 11.0
 Depth (in): 3.8
 Total weight of ice on object: 10 lbs
 Weight of object: 19 lbs
Combined weight of ice and object: 29 lbs

DBCT108F1V92-1 Diplexers

Weight of ice based on total radial SF area:
 Height (in): 10.7
 Width (in): 6.7
 Depth (in): 7.1
 Total weight of ice on object: 9 lbs
 Weight of object: 33 lbs
Combined weight of ice and object: 42 lbs

HSS 4x4

Weight of ice based on total radial SF area:
 Depth (in): 12
 height (in): 4
 Width (in): 4
Per foot weight of ice on object: 3 lbs/ft

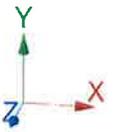
2" Pipe

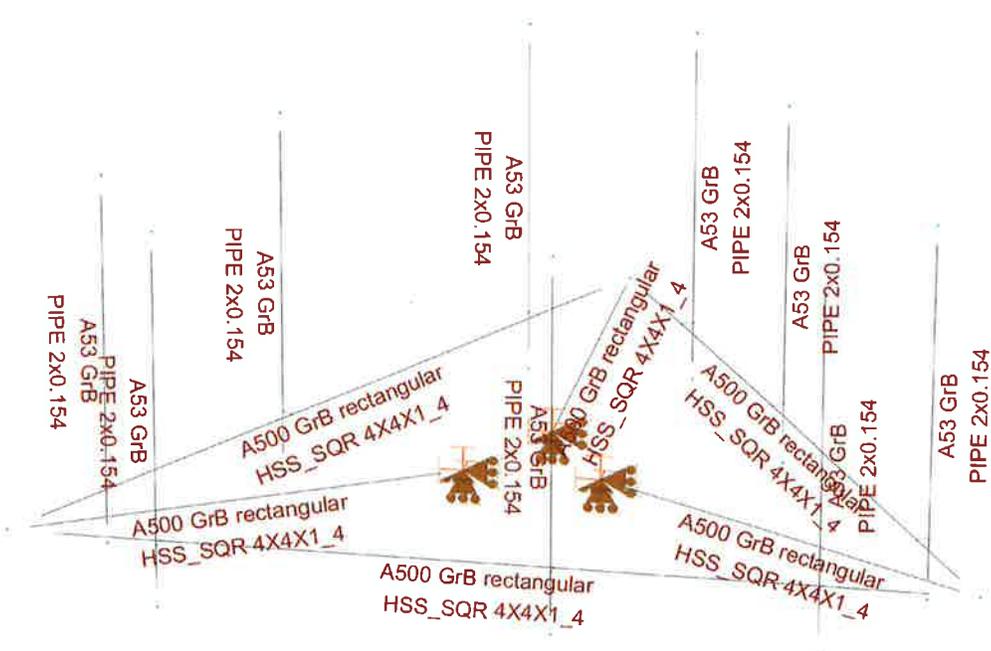
Per foot weight of ice:
 diameter (in): 2.375
Per foot weight of ice on object: 2 lbs/ft



HUDSON
Design Group LLC

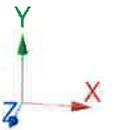
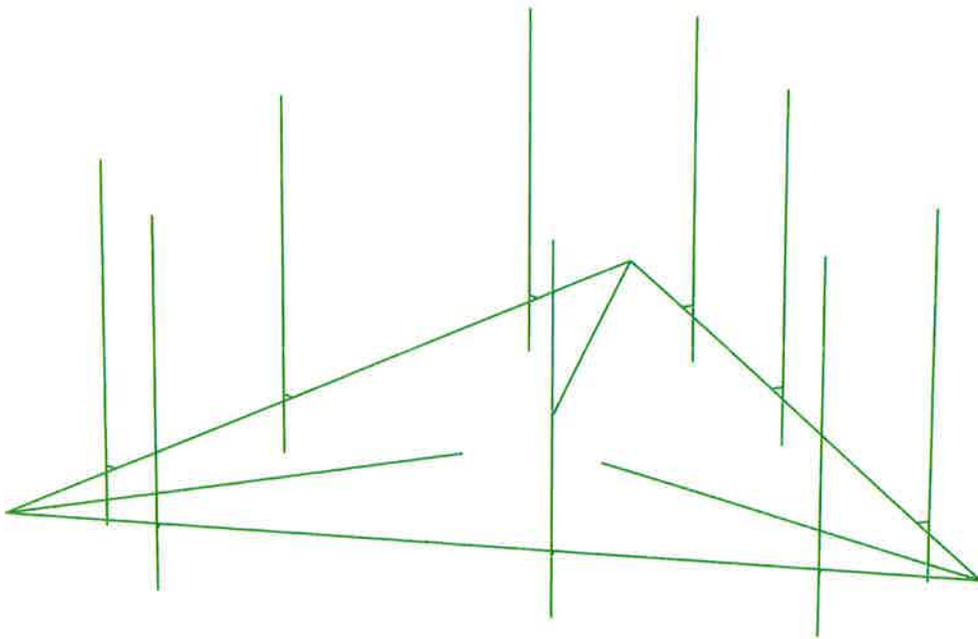
**Mount Calculations
(Existing Conditions)**

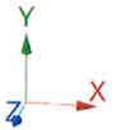
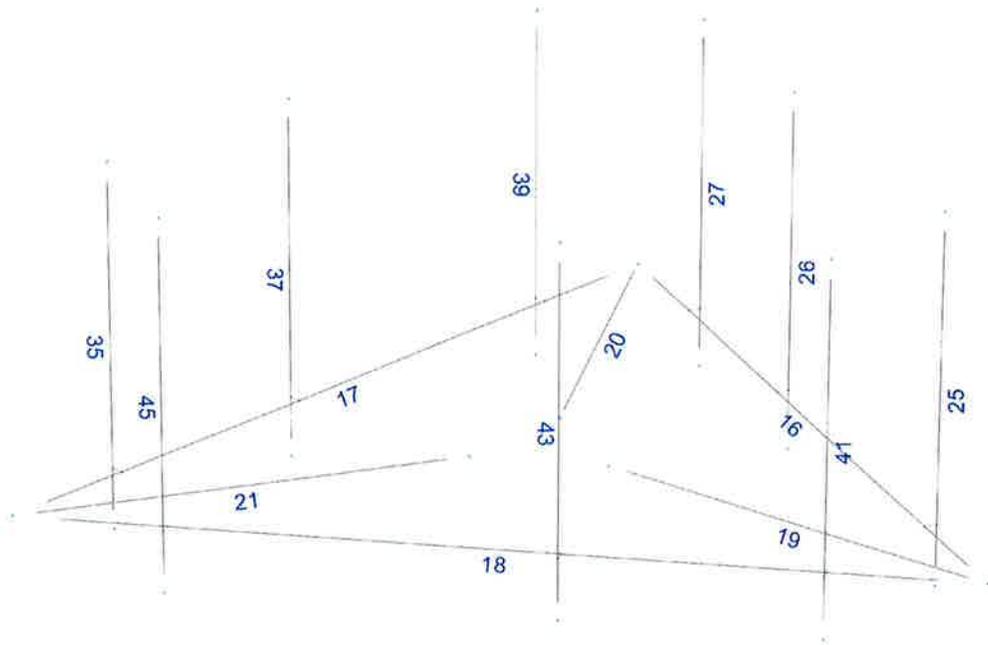




Design status

- Not designed
- Error on design
- Design O.K.
- With warnings





Current Date: 6/25/2018 11:35 AM

Units system: English

File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2198\3C-4C-5C-6C\Rev.0\CT2198 (3C-4C-5C-6C).etz\

Load data

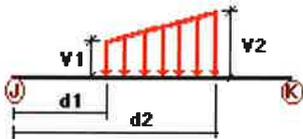
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
W0	Wind Load 0/60/120 deg	No	WIND
W30	Wind Load 30/90/150 deg	No	WIND
Di	Ice Load	No	LL
Wi0	Ice Wind Load 0/60/120 deg	No	WIND
Wi30	Ice Wind Load 30/90/150 deg	No	WIND
WL0	WL 30 mph 0/60/120 deg	No	WIND
WL30	WL 30 mph 30/90/150 deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load End of Mount	No	LL
LLa1	500 lb Live Load on Antenna 1	No	LL
LLa2	500 lb Live Load on Antenna 2	No	LL
LLa3	500 lb Live Load on Antenna 3	No	LL
LLa4	500 lb Live Load on Antenna 4	No	LL
W180	-W0	Yes	
W210	-W30	Yes	
Wi180	-Wi0	Yes	
Wi210	-Wi30	Yes	
WL180	-WL0	Yes	
WL210	-WL30	Yes	

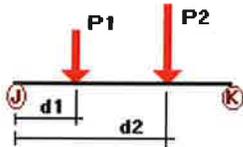
Distributed force on members



Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
W0	16	Z	-0.02	-0.02	0.00	Yes	100.00	Yes
	17	Z	-0.02	-0.02	0.00	Yes	100.00	Yes
	18	Z	-0.02	-0.02	0.00	Yes	100.00	Yes
	19	Z	-0.02	-0.02	0.00	Yes	100.00	Yes
	21	Z	-0.02	-0.02	0.00	Yes	100.00	Yes
	25	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	26	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	27	Z	-0.007	-0.007	0.00	Yes	100.00	Yes

W30	35	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	37	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	39	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	41	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	43	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	45	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	16	X	-0.02	-0.02	0.00	Yes	100.00	Yes
	17	X	-0.02	-0.02	0.00	Yes	100.00	Yes
	19	X	-0.02	-0.02	0.00	Yes	100.00	Yes
	21	X	-0.02	-0.02	0.00	Yes	100.00	Yes
	25	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	26	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	27	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	35	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	37	X	-0.007	-0.007	0.00	Yes	100.00	Yes
Di	39	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	41	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	43	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	45	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	16	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
	17	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
	18	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
	19	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
	21	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
	25	Y	-0.002	-0.002	0.00	Yes	100.00	Yes
	26	Y	-0.002	-0.002	0.00	Yes	100.00	Yes
	27	Y	-0.002	-0.002	0.00	Yes	100.00	Yes
	35	Y	-0.002	-0.002	0.00	Yes	100.00	Yes
	37	Y	-0.002	-0.002	0.00	Yes	100.00	Yes
	39	Y	-0.002	-0.002	0.00	Yes	100.00	Yes
41	Y	-0.002	-0.002	0.00	Yes	100.00	Yes	
43	Y	-0.002	-0.002	0.00	Yes	100.00	Yes	
45	Y	-0.002	-0.002	0.00	Yes	100.00	Yes	

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%	
DL	25	y	-0.056	1.00	No	
		y	-0.056	5.00	No	
		y	-0.06	3.00	No	
	26	y	-0.049	4.00	No	
		y	-0.026	1.00	No	
		y	-0.026	5.00	No	
		y	-0.051	2.00	No	
		y	-0.06	3.00	No	
	27	y	-0.023	4.00	No	
		y	-0.018	1.00	No	
		y	-0.018	5.00	No	
			y	-0.019	2.00	No

		y	-0.033	4.00	No
35		y	-0.018	1.00	No
		y	-0.018	5.00	No
		y	-0.019	2.00	No
		y	-0.033	4.00	No
37		y	-0.026	1.00	No
		y	-0.026	5.00	No
		y	-0.051	2.00	No
		y	-0.06	3.00	No
		y	-0.023	4.00	No
39		y	-0.056	1.00	No
		y	-0.056	5.00	No
		y	-0.06	2.00	No
		y	-0.06	3.00	No
		y	-0.049	4.00	No
41		y	-0.018	1.00	No
		y	-0.018	5.00	No
		y	-0.019	2.00	No
		y	-0.033	4.00	No
43		y	-0.021	1.00	No
		y	-0.021	5.00	No
		y	-0.051	2.00	No
		y	-0.06	3.00	No
		y	-0.023	4.00	No
45		y	-0.038	1.00	No
		y	-0.038	5.00	No
		y	-0.06	2.00	No
		y	-0.06	3.00	No
		y	-0.049	4.00	No
WO	25	z	-0.106	1.00	No
		z	-0.106	5.00	No
		z	-0.034	3.00	No
		z	-0.03	4.00	No
26		z	-0.095	1.00	No
		z	-0.095	5.00	No
		z	-0.042	2.00	No
		z	-0.052	3.00	No
		z	-0.028	4.00	No
27		z	-0.053	1.00	No
		z	-0.053	5.00	No
		z	-0.015	3.00	No
35		z	-0.053	1.00	No
		z	-0.053	5.00	No
		z	-0.015	3.00	No
37		z	-0.095	1.00	No
		z	-0.095	5.00	No
		z	-0.042	2.00	No
		z	-0.052	3.00	No
		z	-0.028	4.00	No
39		z	-0.106	1.00	No
		z	-0.106	5.00	No
		z	-0.039	2.00	No
		z	-0.034	3.00	No
		z	-0.03	4.00	No
41		z	-0.082	1.00	No
		z	-0.082	5.00	No
43		z	-0.087	1.00	No
		z	-0.087	5.00	No
		z	-0.026	2.00	No
		z	-0.006	3.00	No

		z	-0.008	4.00	No
	45	z	-0.082	1.00	No
		z	-0.082	5.00	No
		z	-0.008	2.00	No
		z	-0.007	3.00	No
		z	-0.006	4.00	No
W30	25	2	-0.115	1.00	No
		2	-0.115	5.00	No
		2	-0.028	3.00	No
		2	-0.025	4.00	No
	26	2	-0.127	1.00	No
		2	-0.127	5.00	No
		2	-0.04	2.00	No
		2	-0.045	3.00	No
		2	-0.026	4.00	No
	27	2	-0.072	1.00	No
		2	-0.072	5.00	No
		2	-0.024	3.00	No
	35	2	-0.072	1.00	No
		2	-0.072	5.00	No
		2	-0.024	3.00	No
	37	2	-0.127	1.00	No
		2	-0.127	5.00	No
		2	-0.04	2.00	No
		2	-0.045	3.00	No
		2	-0.026	4.00	No
	39	2	-0.115	1.00	No
		2	-0.115	5.00	No
		2	-0.032	2.00	No
		2	-0.028	3.00	No
		2	-0.025	4.00	No
	41	x	-0.044	1.00	No
		x	-0.044	5.00	No
		x	-0.01	3.00	No
	43	x	-0.057	1.00	No
		x	-0.057	5.00	No
		x	-0.035	2.00	No
		x	-0.049	3.00	No
		x	-0.024	4.00	No
	45	x	-0.075	1.00	No
		x	-0.075	5.00	No
		x	-0.037	2.00	No
		x	-0.031	3.00	No
		x	-0.027	4.00	No
Di	25	y	-0.041	1.00	No
		y	-0.041	5.00	No
		y	-0.019	3.00	No
		y	-0.02	4.00	No
	26	y	-0.042	1.00	No
		y	-0.042	5.00	No
		y	-0.029	2.00	No
		y	-0.029	3.00	No
		y	-0.019	4.00	No
	27	y	-0.023	1.00	No
		y	-0.023	5.00	No
		y	-0.01	3.00	No
		y	-0.009	4.00	No
	35	y	-0.023	1.00	No
		y	-0.023	5.00	No
		y	-0.01	3.00	No

		y	-0.009	4.00	No
37		y	-0.042	1.00	No
		y	-0.042	5.00	No
		y	-0.029	2.00	No
		y	-0.029	3.00	No
		y	-0.019	4.00	No
39		y	-0.041	1.00	No
		y	-0.041	5.00	No
		y	-0.025	2.00	No
		y	-0.019	3.00	No
		y	-0.02	4.00	No
41		y	-0.023	1.00	No
		y	-0.023	5.00	No
		y	-0.01	3.00	No
		y	-0.009	4.00	No
43		y	-0.028	1.00	No
		y	-0.028	5.00	No
		y	-0.029	2.00	No
		y	-0.029	3.00	No
		y	-0.019	4.00	No
45		y	-0.032	1.00	No
		y	-0.032	5.00	No
		y	-0.025	2.00	No
		y	-0.019	3.00	No
		y	-0.02	4.00	No
W10	25	z	-0.032	1.00	No
		z	-0.032	5.00	No
		z	-0.013	3.00	No
		z	-0.012	4.00	No
26		z	-0.03	1.00	No
		z	-0.03	5.00	No
		z	-0.015	2.00	No
		z	-0.019	3.00	No
		z	-0.011	4.00	No
27		z	-0.019	1.00	No
		z	-0.019	5.00	No
		z	-0.007	3.00	No
35		z	-0.019	1.00	No
		z	-0.019	5.00	No
		z	-0.007	3.00	No
37		z	-0.03	1.00	No
		z	-0.03	5.00	No
		z	-0.015	2.00	No
		z	-0.019	3.00	No
		z	-0.011	4.00	No
39		z	-0.032	1.00	No
		z	-0.032	5.00	No
		z	-0.014	2.00	No
		z	-0.013	3.00	No
		z	-0.012	4.00	No
41		z	-0.026	1.00	No
		z	-0.026	5.00	No
43		z	-0.028	1.00	No
		z	-0.028	5.00	No
		z	-0.012	2.00	No
		z	-0.03	3.00	No
		z	-0.007	4.00	No
45		z	-0.026	1.00	No
		z	-0.026	5.00	No
		z	-0.008	2.00	No

		z	-0.007	3.00	No
		z	-0.006	4.00	No
Wi30	25	2	-0.035	1.00	No
		2	-0.035	5.00	No
		2	-0.01	3.00	No
		2	-0.009	4.00	No
	26	2	-0.038	1.00	No
		2	-0.038	5.00	No
		2	-0.013	2.00	No
		2	-0.015	3.00	No
		2	-0.01	4.00	No
	27	2	-0.023	1.00	No
		2	-0.023	5.00	No
		2	-0.01	3.00	No
	35	2	-0.023	1.00	No
		2	-0.023	5.00	No
		2	-0.01	3.00	No
	37	2	-0.038	1.00	No
		2	-0.038	5.00	No
		2	-0.013	2.00	No
		2	-0.015	3.00	No
		2	-0.01	4.00	No
	39	2	-0.035	1.00	No
		2	-0.035	5.00	No
		2	-0.011	2.00	No
		2	-0.01	3.00	No
		2	-0.009	4.00	No
	41	x	-0.017	1.00	No
		x	-0.017	5.00	No
		x	-0.006	3.00	No
	43	x	-0.02	1.00	No
		x	-0.02	5.00	No
		x	-0.014	2.00	No
		x	-0.018	3.00	No
		x	-0.01	4.00	No
	45	x	-0.024	1.00	No
		x	-0.024	5.00	No
		x	-0.014	2.00	No
		x	-0.012	3.00	No
		x	-0.011	4.00	No
WLO	25	z	-0.009	1.00	No
		z	-0.009	5.00	No
		z	-0.003	3.00	No
		z	-0.003	4.00	No
	26	z	-0.006	1.00	No
		z	-0.006	5.00	No
		z	-0.004	2.00	No
		z	-0.005	3.00	No
		z	-0.003	4.00	No
	27	z	-0.005	1.00	No
		z	-0.005	5.00	No
		z	-0.002	3.00	No
	35	z	-0.005	1.00	No
		z	-0.005	5.00	No
		z	-0.002	3.00	No
	37	z	-0.006	1.00	No
		z	-0.006	5.00	No
		z	-0.004	2.00	No
		z	-0.005	3.00	No
		z	-0.003	4.00	No

	39	z	-0.009	1.00	No
		z	-0.009	5.00	No
		z	-0.004	2.00	No
		z	-0.003	3.00	No
		z	-0.003	4.00	No
	41	z	-0.007	1.00	No
		z	-0.007	5.00	No
	43	z	-0.008	1.00	No
		z	-0.008	5.00	No
		z	-0.003	2.00	No
		z	-0.001	3.00	No
		z	-0.001	4.00	No
	45	z	-0.007	1.00	No
		z	-0.007	5.00	No
		z	-0.001	2.00	No
		z	-0.001	3.00	No
		z	-0.001	4.00	No
WL30	25	2	-0.01	1.00	No
		2	-0.01	5.00	No
		2	-0.003	3.00	No
		2	-0.003	4.00	No
	26	2	-0.011	1.00	No
		2	-0.011	5.00	No
		2	-0.004	2.00	No
		2	-0.004	3.00	No
		2	-0.003	4.00	No
	27	2	-0.006	1.00	No
		2	-0.006	5.00	No
		2	-0.002	3.00	No
	35	2	-0.006	1.00	No
		2	-0.006	5.00	No
		2	-0.002	3.00	No
	37	2	-0.011	1.00	No
		2	-0.011	5.00	No
		2	-0.004	2.00	No
		2	-0.004	3.00	No
		2	-0.003	4.00	No
	39	2	-0.01	1.00	No
		2	-0.01	5.00	No
		2	-0.003	2.00	No
		2	-0.003	3.00	No
		2	-0.003	4.00	No
	41	x	-0.004	1.00	No
		x	-0.004	5.00	No
		x	-0.001	3.00	No
	43	x	-0.005	1.00	No
		x	-0.005	5.00	No
		x	-0.003	2.00	No
		x	-0.005	3.00	No
		x	-0.002	4.00	No
	45	x	-0.007	1.00	No
		x	-0.007	5.00	No
		x	-0.003	2.00	No
		x	-0.003	3.00	No
		x	-0.003	4.00	No
LL1	18	y	-0.25	7.25	No
LL2	18	y	-0.25	14.50	No
LLa1	41	y	-0.50	3.00	No
LLa2	43	y	-0.50	3.00	No
LLa3	45	y	-0.50	3.00	No

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
DL	Dead Load	No	0.00	0.00	0.00
W0	Wind Load 0/60/120 deg	No	0.00	0.00	0.00
W30	Wind Load 30/90/150 deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
Wi0	Ice Wind Load 0/60/120 deg	No	0.00	0.00	0.00
Wi30	Ice Wind Load 30/90/150 deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0/60/120 deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30/90/150 deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load End of Mount	No	0.00	0.00	0.00
LLa1	500 lb Live Load on Antenna 1	No	0.00	0.00	0.00
LLa2	500 lb Live Load on Antenna 2	No	0.00	0.00	0.00
LLa3	500 lb Live Load on Antenna 3	No	0.00	0.00	0.00
LLa4	500 lb Live Load on Antenna 4	No	0.00	0.00	0.00
W180	-W0	Yes	0.00	0.00	0.00
W210	-W30	Yes	0.00	0.00	0.00
Wi180	-Wi0	Yes	0.00	0.00	0.00
Wi210	-Wi30	Yes	0.00	0.00	0.00
WL180	-WL0	Yes	0.00	0.00	0.00
WL210	-WL30	Yes	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
DL	0.00	0.00	0.00
W0	0.00	0.00	0.00
W30	0.00	0.00	0.00
Di	0.00	0.00	0.00
Wi0	0.00	0.00	0.00
Wi30	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
LLa1	0.00	0.00	0.00
LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00
LLa4	0.00	0.00	0.00
W180	0.00	0.00	0.00
W210	0.00	0.00	0.00
Wi180	0.00	0.00	0.00
Wi210	0.00	0.00	0.00
WL180	0.00	0.00	0.00
WL210	0.00	0.00	0.00

Current Date: 6/25/2018 11:34 AM

Units system: English

File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2198\3C-4C-5C-6C\Rev.0\CT2198 (3C-4C-5C-6C).etx

Steel Code Check

Report: Summary - For all selected load conditions

Load conditions to be included in design :

LC1=1.2DL+1.6W0
 LC2=1.2DL+1.6W30
 LC3=1.2DL-1.6W0
 LC4=1.2DL-1.6W30
 LC5=0.9DL+1.6W0
 LC6=0.9DL+1.6W30
 LC7=0.9DL-1.6W0
 LC8=0.9DL-1.6W30
 LC9=1.2DL+Di+W0
 LC10=1.2DL+Di+W30
 LC11=1.2DL+Di-W0
 LC12=1.2DL+Di-W30
 LC13=1.2DL
 LC14=0.9DL
 LC15=1.2DL+1.6LL1
 LC16=1.2DL+1.6LL2
 LC17=1.2DL+W0+LLa1
 LC18=1.2DL+W30+LLa1
 LC19=1.2DL-W0+LLa1
 LC20=1.2DL-W30+LLa1
 LC21=1.2DL+W0+LLa2
 LC22=1.2DL+W30+LLa2
 LC23=1.2DL-W0+LLa2
 LC24=1.2DL-W30+LLa2
 LC25=1.2DL+W0+LLa3
 LC26=1.2DL+W30+LLa3
 LC27=1.2DL-W0+LLa3
 LC28=1.2DL-W30+LLa3
 LC29=1.2DL+W0+LLa4
 LC30=1.2DL+W30+LLa4
 LC31=1.2DL-W0+LLa4
 LC32=1.2DL-W30+LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	<i>HSS_SQR 4X4X1_4</i>	16	LC1 at 100.00%	0.26	OK	Eq. H1-1b
			LC10 at 100.00%	0.14	OK	
			LC11 at 0.00%	0.13	OK	
			LC12 at 0.00%	0.14	OK	
			LC13 at 100.00%	0.07	OK	
			LC14 at 100.00%	0.05	OK	
			LC15 at 0.00%	0.08	OK	
			LC16 at 100.00%	0.07	OK	
			LC17 at 0.00%	0.09	OK	
			LC18 at 0.00%	0.10	OK	
			LC19 at 0.00%	0.10	OK	
			LC2 at 100.00%	0.23	OK	
			LC20 at 0.00%	0.10	OK	
			LC21 at 0.00%	0.08	OK	
			LC22 at 0.00%	0.09	OK	
			LC23 at 0.00%	0.09	OK	

	LC24 at 0.00%	0.09	OK	
	LC25 at 100.00%	0.07	OK	
	LC26 at 0.00%	0.08	OK	
	LC27 at 0.00%	0.08	OK	
	LC28 at 0.00%	0.08	OK	
	LC29 at 100.00%	0.08	OK	
	LC3 at 0.00%	0.16	OK	
	LC30 at 100.00%	0.08	OK	
	LC31 at 0.00%	0.07	OK	
	LC32 at 0.00%	0.07	OK	
	LC4 at 0.00%	0.24	OK	Eq. H1-1b
	LC5 at 100.00%	0.24	OK	
	LC6 at 100.00%	0.21	OK	
	LC7 at 0.00%	0.14	OK	
	LC8 at 0.00%	0.23	OK	
	LC9 at 100.00%	0.15	OK	
<hr/>				
17	LC1 at 100.00%	0.26	OK	Eq. H1-1b
	LC10 at 0.00%	0.14	OK	
	LC11 at 0.00%	0.14	OK	
	LC12 at 100.00%	0.15	OK	
	LC13 at 100.00%	0.08	OK	
	LC14 at 100.00%	0.06	OK	
	LC15 at 0.00%	0.08	OK	
	LC16 at 0.00%	0.10	OK	
	LC17 at 100.00%	0.08	OK	
	LC18 at 0.00%	0.08	OK	
	LC19 at 0.00%	0.08	OK	
	LC2 at 0.00%	0.25	OK	Eq. H1-1b
	LC20 at 100.00%	0.08	OK	
	LC21 at 0.00%	0.08	OK	
	LC22 at 0.00%	0.09	OK	
	LC23 at 0.00%	0.09	OK	
	LC24 at 0.00%	0.09	OK	
	LC25 at 0.00%	0.10	OK	
	LC26 at 0.00%	0.10	OK	
	LC27 at 0.00%	0.10	OK	
	LC28 at 0.00%	0.10	OK	
	LC29 at 100.00%	0.08	OK	
	LC3 at 0.00%	0.16	OK	
	LC30 at 100.00%	0.08	OK	
	LC31 at 100.00%	0.08	OK	
	LC32 at 100.00%	0.08	OK	
	LC4 at 100.00%	0.23	OK	
	LC5 at 100.00%	0.24	OK	
	LC6 at 0.00%	0.23	OK	
	LC7 at 0.00%	0.14	OK	
	LC8 at 100.00%	0.21	OK	
	LC9 at 100.00%	0.15	OK	
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18	LC1 at 0.00%	0.18	OK	
	LC10 at 100.00%	0.14	OK	
	LC11 at 100.00%	0.13	OK	
	LC12 at 0.00%	0.14	OK	
	LC13 at 100.00%	0.07	OK	
	LC14 at 100.00%	0.05	OK	
	LC15 at 100.00%	0.11	OK	
	LC16 at 100.00%	0.10	OK	
	LC17 at 0.00%	0.12	OK	
	LC18 at 0.00%	0.12	OK	
	LC19 at 0.00%	0.12	OK	
	LC2 at 100.00%	0.24	OK	Eq. H1-1b
	LC20 at 0.00%	0.13	OK	
	LC21 at 0.00%	0.12	OK	

LC22 at 100.00%	0.12	OK
LC23 at 0.00%	0.12	OK
LC24 at 0.00%	0.13	OK
LC25 at 100.00%	0.13	OK
LC26 at 100.00%	0.13	OK
LC27 at 100.00%	0.13	OK
LC28 at 100.00%	0.12	OK
LC29 at 100.00%	0.07	OK
LC3 at 0.00%	0.17	OK
LC30 at 100.00%	0.08	OK
LC31 at 100.00%	0.07	OK
LC32 at 0.00%	0.07	OK
LC4 at 0.00%	0.24	OK
LC5 at 0.00%	0.17	OK
LC6 at 100.00%	0.22	OK
LC7 at 0.00%	0.15	OK
LC8 at 0.00%	0.22	OK
LC9 at 100.00%	0.13	OK

Eq. H1-1b

19

LC1 at 100.00%	0.20	OK
LC10 at 0.00%	0.23	OK
LC11 at 0.00%	0.29	OK
LC12 at 0.00%	0.30	OK
LC13 at 0.00%	0.15	OK
LC14 at 0.00%	0.11	OK
LC15 at 0.00%	0.21	OK
LC16 at 0.00%	0.14	OK
LC17 at 0.00%	0.30	OK
LC18 at 0.00%	0.29	OK
LC19 at 0.00%	0.31	OK
LC2 at 100.00%	0.11	OK
LC20 at 0.00%	0.31	OK
LC21 at 0.00%	0.23	OK
LC22 at 0.00%	0.22	OK
LC23 at 0.00%	0.24	OK
LC24 at 0.00%	0.24	OK
LC25 at 0.00%	0.16	OK
LC26 at 0.00%	0.15	OK
LC27 at 0.00%	0.17	OK
LC28 at 0.00%	0.17	OK
LC29 at 0.00%	0.15	OK
LC3 at 0.00%	0.34	OK
LC30 at 0.00%	0.14	OK
LC31 at 0.00%	0.16	OK
LC32 at 0.00%	0.16	OK
LC4 at 0.00%	0.36	OK
LC5 at 100.00%	0.17	OK
LC6 at 25.00%	0.10	OK
LC7 at 0.00%	0.31	OK
LC8 at 0.00%	0.32	OK
LC9 at 0.00%	0.25	OK

Eq. H1-1b

20

LC1 at 0.00%	0.42	OK
LC10 at 0.00%	0.31	OK
LC11 at 0.00%	0.26	OK
LC12 at 0.00%	0.31	OK
LC13 at 0.00%	0.18	OK
LC14 at 0.00%	0.13	OK
LC15 at 0.00%	0.16	OK
LC16 at 0.00%	0.16	OK
LC17 at 0.00%	0.17	OK
LC18 at 0.00%	0.16	OK
LC19 at 0.00%	0.15	OK
LC2 at 0.00%	0.31	OK

Eq. H1-1b

LC20 at 0.00%	0.16	OK
LC21 at 0.00%	0.17	OK
LC22 at 0.00%	0.16	OK
LC23 at 0.00%	0.15	OK
LC24 at 0.00%	0.16	OK
LC25 at 0.00%	0.17	OK
LC26 at 0.00%	0.16	OK
LC27 at 0.00%	0.15	OK
LC28 at 0.00%	0.16	OK
LC29 at 0.00%	0.19	OK
LC3 at 100.00%	0.07	OK
LC30 at 0.00%	0.18	OK
LC31 at 0.00%	0.17	OK
LC32 at 0.00%	0.18	OK
LC4 at 0.00%	0.31	OK
LC5 at 0.00%	0.37	OK
LC6 at 100.00%	0.28	OK
LC7 at 0.00%	0.10	OK
LC8 at 100.00%	0.28	OK
LC9 at 0.00%	0.34	OK

21

LC1 at 0.00%	0.19	OK
LC10 at 100.00%	0.31	OK
LC11 at 100.00%	0.30	OK
LC12 at 100.00%	0.24	OK
LC13 at 100.00%	0.16	OK
LC14 at 100.00%	0.12	OK
LC15 at 100.00%	0.21	OK
LC16 at 100.00%	0.31	OK
LC17 at 100.00%	0.17	OK
LC18 at 100.00%	0.18	OK
LC19 at 100.00%	0.18	OK
LC2 at 100.00%	0.38	OK
LC20 at 100.00%	0.16	OK
LC21 at 100.00%	0.21	OK
LC22 at 100.00%	0.23	OK
LC23 at 100.00%	0.22	OK
LC24 at 100.00%	0.21	OK
LC25 at 100.00%	0.31	OK
LC26 at 100.00%	0.32	OK
LC27 at 100.00%	0.32	OK
LC28 at 100.00%	0.30	OK
LC29 at 100.00%	0.16	OK
LC3 at 100.00%	0.33	OK
LC30 at 100.00%	0.17	OK
LC31 at 100.00%	0.17	OK
LC32 at 100.00%	0.15	OK
LC4 at 0.00%	0.12	OK
LC5 at 0.00%	0.16	OK
LC6 at 100.00%	0.33	OK
LC7 at 100.00%	0.29	OK
LC8 at 50.00%	0.10	OK
LC9 at 100.00%	0.26	OK

Eq. H1-1b

PIPE 2x0.154

25

LC1 at 81.25%	0.50	OK
LC10 at 81.25%	0.09	OK
LC11 at 81.25%	0.09	OK
LC12 at 81.25%	0.09	OK
LC13 at 68.75%	0.01	OK
LC14 at 68.75%	0.01	OK
LC15 at 68.75%	0.01	OK
LC16 at 68.75%	0.01	OK
LC17 at 81.25%	0.03	OK
LC18 at 81.25%	0.03	OK

LC19 at 81.25%	0.03	OK
LC2 at 81.25%	0.52	OK
LC20 at 81.25%	0.03	OK
LC21 at 81.25%	0.03	OK
LC22 at 81.25%	0.03	OK
LC23 at 81.25%	0.03	OK
LC24 at 81.25%	0.03	OK
LC25 at 81.25%	0.03	OK
LC26 at 81.25%	0.03	OK
LC27 at 81.25%	0.03	OK
LC28 at 81.25%	0.03	OK
LC29 at 81.25%	0.03	OK
LC3 at 81.25%	0.50	OK
LC30 at 81.25%	0.03	OK
LC31 at 81.25%	0.03	OK
LC32 at 81.25%	0.03	OK
LC4 at 81.25%	0.52	OK
LC5 at 81.25%	0.50	OK
LC6 at 81.25%	0.52	OK
LC7 at 81.25%	0.50	OK
LC8 at 81.25%	0.52	OK
LC9 at 81.25%	0.09	OK

Eq. H1-1b

26

LC1 at 81.25%	0.60	OK
LC10 at 81.25%	0.13	OK
LC11 at 81.25%	0.12	OK
LC12 at 81.25%	0.13	OK
LC13 at 68.75%	0.01	OK
LC14 at 68.75%	0.01	OK
LC15 at 68.75%	0.01	OK
LC16 at 68.75%	0.01	OK
LC17 at 81.25%	0.03	OK
LC18 at 81.25%	0.04	OK
LC19 at 81.25%	0.03	OK
LC2 at 81.25%	0.69	OK
LC20 at 81.25%	0.04	OK
LC21 at 81.25%	0.03	OK
LC22 at 81.25%	0.04	OK
LC23 at 81.25%	0.03	OK
LC24 at 81.25%	0.04	OK
LC25 at 81.25%	0.03	OK
LC26 at 81.25%	0.04	OK
LC27 at 81.25%	0.03	OK
LC28 at 81.25%	0.04	OK
LC29 at 81.25%	0.03	OK
LC3 at 81.25%	0.60	OK
LC30 at 81.25%	0.04	OK
LC31 at 81.25%	0.03	OK
LC32 at 81.25%	0.04	OK
LC4 at 81.25%	0.69	OK
LC5 at 81.25%	0.60	OK
LC6 at 81.25%	0.69	OK
LC7 at 81.25%	0.60	OK
LC8 at 81.25%	0.69	OK
LC9 at 81.25%	0.12	OK

Eq. H1-1b

27

LC1 at 81.25%	0.27	OK
LC10 at 81.25%	0.06	OK
LC11 at 81.25%	0.05	OK
LC12 at 81.25%	0.06	OK
LC13 at 68.75%	0.00	OK
LC14 at 68.75%	0.00	OK
LC15 at 68.75%	0.00	OK
LC16 at 68.75%	0.00	OK

LC17 at 81.25%	0.01	OK
LC18 at 81.25%	0.02	OK
LC19 at 81.25%	0.01	OK
LC2 at 81.25%	0.35	OK
LC20 at 81.25%	0.02	OK
LC21 at 81.25%	0.01	OK
LC22 at 81.25%	0.02	OK
LC23 at 81.25%	0.01	OK
LC24 at 81.25%	0.02	OK
LC25 at 81.25%	0.01	OK
LC26 at 81.25%	0.02	OK
LC27 at 81.25%	0.01	OK
LC28 at 81.25%	0.02	OK
LC29 at 81.25%	0.01	OK
LC3 at 81.25%	0.27	OK
LC30 at 81.25%	0.02	OK
LC31 at 81.25%	0.01	OK
LC32 at 81.25%	0.02	OK
LC4 at 81.25%	0.35	OK
LC5 at 81.25%	0.27	OK
LC6 at 81.25%	0.35	OK
LC7 at 81.25%	0.27	OK
LC8 at 81.25%	0.35	OK
LC9 at 81.25%	0.05	OK

Eq. H1-1b

35

LC1 at 81.25%	0.27	OK
LC10 at 81.25%	0.06	OK
LC11 at 81.25%	0.05	OK
LC12 at 81.25%	0.06	OK
LC13 at 68.75%	0.00	OK
LC14 at 68.75%	0.00	OK
LC15 at 68.75%	0.00	OK
LC16 at 68.75%	0.00	OK
LC17 at 81.25%	0.01	OK
LC18 at 81.25%	0.02	OK
LC19 at 81.25%	0.01	OK
LC2 at 81.25%	0.35	OK
LC20 at 81.25%	0.02	OK
LC21 at 81.25%	0.01	OK
LC22 at 81.25%	0.02	OK
LC23 at 81.25%	0.01	OK
LC24 at 81.25%	0.02	OK
LC25 at 81.25%	0.01	OK
LC26 at 81.25%	0.02	OK
LC27 at 81.25%	0.01	OK
LC28 at 81.25%	0.02	OK
LC29 at 81.25%	0.01	OK
LC3 at 81.25%	0.27	OK
LC30 at 81.25%	0.02	OK
LC31 at 81.25%	0.01	OK
LC32 at 81.25%	0.02	OK
LC4 at 81.25%	0.35	OK
LC5 at 81.25%	0.27	OK
LC6 at 81.25%	0.35	OK
LC7 at 81.25%	0.27	OK
LC8 at 81.25%	0.35	OK
LC9 at 81.25%	0.05	OK

Eq. H1-1b

37

LC1 at 81.25%	0.60	OK
LC10 at 81.25%	0.13	OK
LC11 at 81.25%	0.12	OK
LC12 at 81.25%	0.13	OK
LC13 at 68.75%	0.01	OK
LC14 at 68.75%	0.01	OK

LC15 at 68.75%	0.01	OK
LC16 at 68.75%	0.01	OK
LC17 at 81.25%	0.03	OK
LC18 at 81.25%	0.04	OK
LC19 at 81.25%	0.03	OK
LC2 at 81.25%	0.69	OK
LC20 at 81.25%	0.04	OK
LC21 at 81.25%	0.03	OK
LC22 at 81.25%	0.04	OK
LC23 at 81.25%	0.03	OK
LC24 at 81.25%	0.04	OK
LC25 at 81.25%	0.03	OK
LC26 at 81.25%	0.04	OK
LC27 at 81.25%	0.03	OK
LC28 at 81.25%	0.04	OK
LC29 at 81.25%	0.03	OK
LC3 at 81.25%	0.60	OK
LC30 at 81.25%	0.04	OK
LC31 at 81.25%	0.03	OK
LC32 at 81.25%	0.04	OK
LC4 at 81.25%	0.69	OK
LC5 at 81.25%	0.60	OK
LC6 at 81.25%	0.69	OK
LC7 at 81.25%	0.60	OK
LC8 at 81.25%	0.69	OK
LC9 at 81.25%	0.12	OK

Eq. H1-1b

39

LC1 at 81.25%	0.60	OK
LC10 at 81.25%	0.11	OK
LC11 at 81.25%	0.12	OK
LC12 at 81.25%	0.11	OK
LC13 at 68.75%	0.01	OK
LC14 at 68.75%	0.01	OK
LC15 at 68.75%	0.01	OK
LC16 at 68.75%	0.01	OK
LC17 at 81.25%	0.04	OK
LC18 at 81.25%	0.04	OK
LC19 at 81.25%	0.04	OK
LC2 at 81.25%	0.60	OK
LC20 at 81.25%	0.04	OK
LC21 at 81.25%	0.04	OK
LC22 at 81.25%	0.04	OK
LC23 at 81.25%	0.04	OK
LC24 at 81.25%	0.04	OK
LC25 at 81.25%	0.04	OK
LC26 at 81.25%	0.04	OK
LC27 at 81.25%	0.04	OK
LC28 at 81.25%	0.04	OK
LC29 at 81.25%	0.04	OK
LC3 at 81.25%	0.60	OK
LC30 at 81.25%	0.04	OK
LC31 at 81.25%	0.04	OK
LC32 at 81.25%	0.04	OK
LC4 at 81.25%	0.60	OK
LC5 at 81.25%	0.60	OK
LC6 at 81.25%	0.60	OK
LC7 at 81.25%	0.60	OK
LC8 at 81.25%	0.60	OK
LC9 at 81.25%	0.12	OK

Eq. H1-1b

41

LC1 at 81.25%	0.34	OK
LC10 at 81.25%	0.04	OK
LC11 at 81.25%	0.06	OK
LC12 at 81.25%	0.04	OK

Eq. H1-1b

LC13 at 68.75%	0.00	OK
LC14 at 68.75%	0.00	OK
LC15 at 68.75%	0.00	OK
LC16 at 68.75%	0.00	OK
LC17 at 81.25%	0.03	OK
LC18 at 68.75%	0.03	OK
LC19 at 81.25%	0.03	OK
LC2 at 81.25%	0.23	OK
LC20 at 68.75%	0.03	OK
LC21 at 81.25%	0.02	OK
LC22 at 81.25%	0.01	OK
LC23 at 81.25%	0.02	OK
LC24 at 81.25%	0.01	OK
LC25 at 81.25%	0.02	OK
LC26 at 81.25%	0.01	OK
LC27 at 81.25%	0.02	OK
LC28 at 81.25%	0.01	OK
LC29 at 81.25%	0.02	OK
LC3 at 81.25%	0.34	OK
LC30 at 81.25%	0.01	OK
LC31 at 81.25%	0.02	OK
LC32 at 81.25%	0.01	OK
LC4 at 81.25%	0.23	OK
LC5 at 81.25%	0.34	OK
LC6 at 81.25%	0.23	OK
LC7 at 81.25%	0.34	OK
LC8 at 81.25%	0.23	OK
LC9 at 81.25%	0.06	OK

43

LC1 at 81.25%	0.44	OK
LC10 at 81.25%	0.09	OK
LC11 at 81.25%	0.12	OK
LC12 at 81.25%	0.09	OK
LC13 at 68.75%	0.01	OK
LC14 at 68.75%	0.01	OK
LC15 at 68.75%	0.01	OK
LC16 at 68.75%	0.01	OK
LC17 at 81.25%	0.03	OK
LC18 at 81.25%	0.03	OK
LC19 at 81.25%	0.03	OK
LC2 at 81.25%	0.45	OK
LC20 at 81.25%	0.03	OK
LC21 at 81.25%	0.04	OK
LC22 at 81.25%	0.04	OK
LC23 at 81.25%	0.04	OK
LC24 at 81.25%	0.04	OK
LC25 at 81.25%	0.03	OK
LC26 at 81.25%	0.03	OK
LC27 at 81.25%	0.03	OK
LC28 at 81.25%	0.03	OK
LC29 at 81.25%	0.03	OK
LC3 at 81.25%	0.44	OK
LC30 at 81.25%	0.03	OK
LC31 at 81.25%	0.03	OK
LC32 at 81.25%	0.03	OK
LC4 at 81.25%	0.45	OK
LC5 at 81.25%	0.44	OK
LC6 at 81.25%	0.45	OK
LC7 at 81.25%	0.44	OK
LC8 at 81.25%	0.45	OK
LC9 at 81.25%	0.12	OK

Eq. H1-1b

45

LC1 at 81.25%	0.38	OK
LC10 at 81.25%	0.10	OK

LC11 at 81.25%	0.08	OK
LC12 at 81.25%	0.10	OK
LC13 at 68.75%	0.01	OK
LC14 at 68.75%	0.01	OK
LC15 at 68.75%	0.01	OK
LC16 at 68.75%	0.01	OK
LC17 at 81.25%	0.02	OK
LC18 at 81.25%	0.03	OK
LC19 at 81.25%	0.02	OK
LC2 at 81.25%	0.49	OK
LC20 at 81.25%	0.03	OK
LC21 at 81.25%	0.02	OK
LC22 at 81.25%	0.03	OK
LC23 at 81.25%	0.02	OK
LC24 at 81.25%	0.03	OK
LC25 at 68.75%	0.04	OK
LC26 at 81.25%	0.04	OK
LC27 at 68.75%	0.04	OK
LC28 at 81.25%	0.04	OK
LC29 at 81.25%	0.02	OK
LC3 at 81.25%	0.38	OK
LC30 at 81.25%	0.03	OK
LC31 at 81.25%	0.02	OK
LC32 at 81.25%	0.03	OK
LC4 at 81.25%	0.49	OK
LC5 at 81.25%	0.38	OK
LC6 at 81.25%	0.48	OK
LC7 at 81.25%	0.38	OK
LC8 at 81.25%	0.48	OK
LC9 at 81.25%	0.08	OK

Eq. H1-1b

Sec. E1

Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
4	-1.083	0.00	0.625	0
5	1.083	0.00	0.625	0
6	0.00	0.00	-1.25	0
27	-0.0001	0.00	-8.5158	0
28	7.3749	0.00	4.258	0
31	-7.375	0.00	4.2578	0
38	3.3606	-1.00	-3.0949	0
39	1.3606	-1.00	-6.559	0
40	6.3606	-1.00	2.1012	0
41	3.3606	5.00	-3.0949	0
42	1.3606	5.00	-6.559	0
43	6.3606	5.00	2.1012	0
58	-6.3606	-1.00	2.1012	0
59	-6.3606	5.00	2.1012	0
62	-4.3606	-1.00	-1.3629	0
63	-4.3606	5.00	-1.3629	0
66	-1.3606	-1.00	-6.559	0
67	-1.3606	5.00	-6.559	0
70	5.00	-1.00	4.4578	0
71	5.00	5.00	4.4578	0
74	1.00	-1.00	4.4578	0

75	1.00	5.00	4.4578	0
78	-5.00	-1.00	4.4578	0
79	-5.00	5.00	4.4578	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
4	1	1	1	1	1	1
5	1	1	1	1	1	1
6	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
16	28	27		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
17	31	27		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
18	28	31		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
19	5	28		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
20	6	27		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
21	31	4		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
25	43	40		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
26	41	38		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
27	42	39		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
35	59	58		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
37	63	62		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
39	67	66		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
41	71	70		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
43	75	74		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
45	79	78		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

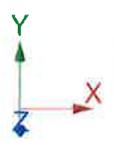
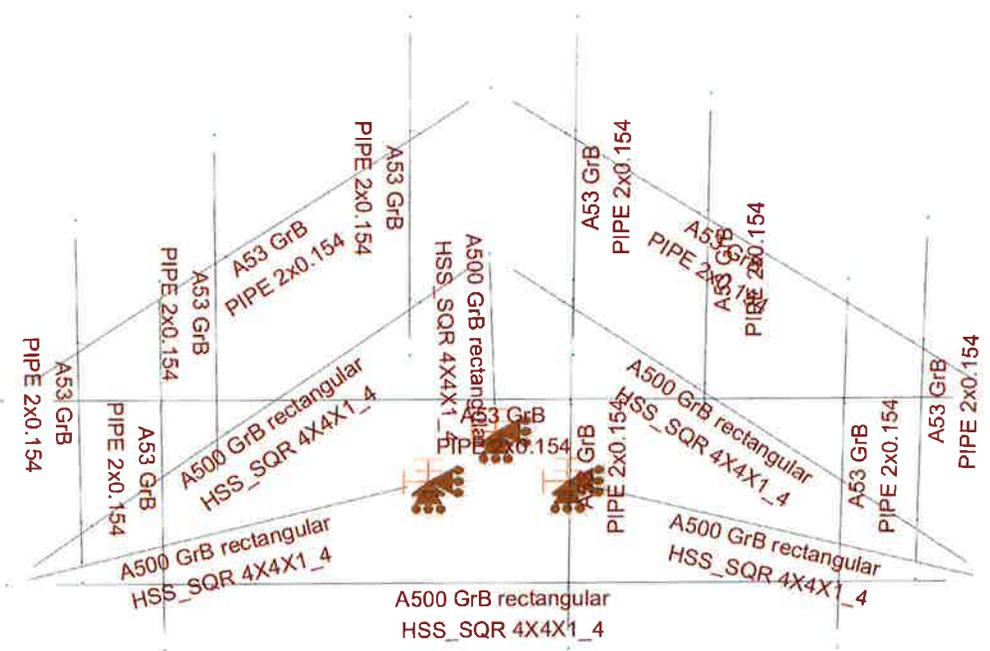


HUDSON
Design Group LLC

**Mount Calculations
(Proposed Conditions)**

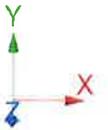
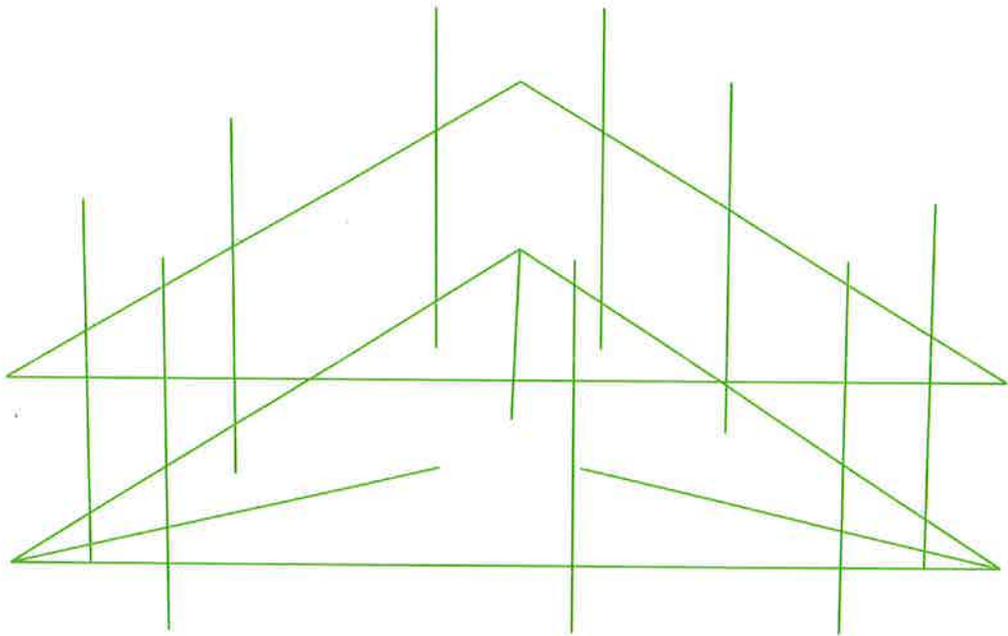
Install new SitePro1 P/N
HRK14 handrail kit
(or approved equal).

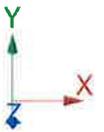
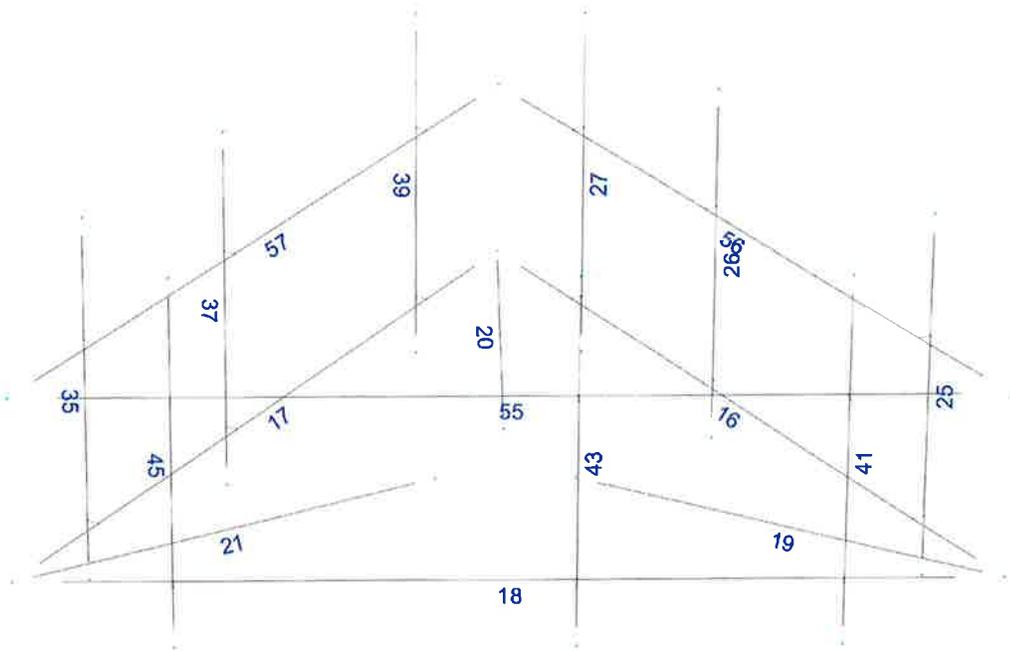




Design status

-  Not designed
-  Error on design
-  Design O.K.
-  With warnings





Current Date: 6/25/2018 11:39 AM

Units system: English

File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2198\3C-4C-5C-6C\Rev.1\CT2198 (3C-4C-5C-6C) (mod) (Rev.1).etx

Load data

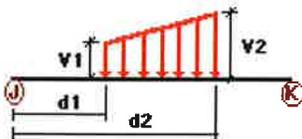
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
W0	Wind Load 0/60/120 deg	No	WIND
W30	Wind Load 30/90/150 deg	No	WIND
Di	Ice Load	No	LL
Wi0	Ice Wind Load 0/60/120 deg	No	WIND
Wi30	Ice Wind Load 30/90/150 deg	No	WIND
WL0	WL 30 mph 0/60/120 deg	No	WIND
WL30	WL 30 mph 30/90/150 deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load End of Mount	No	LL
LLa1	500 lb Live Load on Antenna 1	No	LL
LLa2	500 lb Live Load on Antenna 2	No	LL
LLa3	500 lb Live Load on Antenna 3	No	LL
LLa4	500 lb Live Load on Antenna 4	No	LL
W180	-W0	Yes	
W210	-W30	Yes	
Wi180	-Wi0	Yes	
Wi210	-Wi30	Yes	
WL180	-WL0	Yes	
WL210	-WL30	Yes	

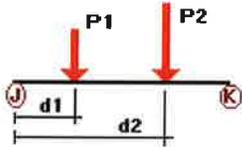
Distributed force on members



Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
W0	16	Z	-0.02	-0.02	0.00	Yes	100.00	Yes
	17	Z	-0.02	-0.02	0.00	Yes	100.00	Yes
	18	Z	-0.02	-0.02	0.00	Yes	100.00	Yes
	19	Z	-0.02	-0.02	0.00	Yes	100.00	Yes
	21	Z	-0.02	-0.02	0.00	Yes	100.00	Yes
	25	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	26	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	27	Z	-0.007	-0.007	0.00	Yes	100.00	Yes

W30	35	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	37	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	39	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	41	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	43	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	45	Z	-0.007	-0.007	0.00	Yes	100.00	Yes
	16	X	-0.02	-0.02	0.00	Yes	100.00	Yes
	17	X	-0.02	-0.02	0.00	Yes	100.00	Yes
	19	X	-0.02	-0.02	0.00	Yes	100.00	Yes
	21	X	-0.02	-0.02	0.00	Yes	100.00	Yes
	25	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	26	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	27	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	35	X	-0.007	-0.007	0.00	Yes	100.00	Yes
Di	37	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	39	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	41	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	43	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	45	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	16	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
	17	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
	18	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
	19	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
	21	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
	25	Y	-0.002	-0.002	0.00	Yes	100.00	Yes
	26	Y	-0.002	-0.002	0.00	Yes	100.00	Yes
	27	Y	-0.002	-0.002	0.00	Yes	100.00	Yes
	35	Y	-0.002	-0.002	0.00	Yes	100.00	Yes
37	Y	-0.002	-0.002	0.00	Yes	100.00	Yes	
39	Y	-0.002	-0.002	0.00	Yes	100.00	Yes	
41	Y	-0.002	-0.002	0.00	Yes	100.00	Yes	
43	Y	-0.002	-0.002	0.00	Yes	100.00	Yes	
45	Y	-0.002	-0.002	0.00	Yes	100.00	Yes	

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	25	y	-0.056	1.00	No
		y	-0.056	5.00	No
		y	-0.06	3.00	No
		y	-0.049	4.00	No
	26	y	-0.026	1.00	No
		y	-0.026	5.00	No
		y	-0.051	2.00	No
		y	-0.06	3.00	No
	27	y	-0.023	4.00	No
		y	-0.018	1.00	No
		y	-0.018	5.00	No
		y	-0.019	2.00	No

		y	-0.033	4.00	No
35		y	-0.018	1.00	No
		y	-0.018	5.00	No
		y	-0.019	2.00	No
		y	-0.033	4.00	No
37		y	-0.026	1.00	No
		y	-0.026	5.00	No
		y	-0.051	2.00	No
		y	-0.06	3.00	No
		y	-0.023	4.00	No
39		y	-0.056	1.00	No
		y	-0.056	5.00	No
		y	-0.06	2.00	No
		y	-0.06	3.00	No
		y	-0.049	4.00	No
41		y	-0.018	1.00	No
		y	-0.018	5.00	No
		y	-0.019	2.00	No
		y	-0.033	4.00	No
43		y	-0.021	1.00	No
		y	-0.021	5.00	No
		y	-0.051	2.00	No
		y	-0.06	3.00	No
		y	-0.023	4.00	No
45		y	-0.038	1.00	No
		y	-0.038	5.00	No
		y	-0.06	2.00	No
		y	-0.06	3.00	No
		y	-0.049	4.00	No
W0	25	z	-0.106	1.00	No
		z	-0.106	5.00	No
		z	-0.034	3.00	No
		z	-0.03	4.00	No
26		z	-0.095	1.00	No
		z	-0.095	5.00	No
		z	-0.042	2.00	No
		z	-0.052	3.00	No
		z	-0.028	4.00	No
27		z	-0.053	1.00	No
		z	-0.053	5.00	No
		z	-0.015	3.00	No
35		z	-0.053	1.00	No
		z	-0.053	5.00	No
		z	-0.015	3.00	No
37		z	-0.095	1.00	No
		z	-0.095	5.00	No
		z	-0.042	2.00	No
		z	-0.052	3.00	No
		z	-0.028	4.00	No
39		z	-0.106	1.00	No
		z	-0.106	5.00	No
		z	-0.039	2.00	No
		z	-0.034	3.00	No
		z	-0.03	4.00	No
41		z	-0.082	1.00	No
		z	-0.082	5.00	No
43		z	-0.087	1.00	No
		z	-0.087	5.00	No
		z	-0.026	2.00	No
		z	-0.006	3.00	No

		z	-0.008	4.00	No
	45	z	-0.082	1.00	No
		z	-0.082	5.00	No
		z	-0.008	2.00	No
		z	-0.007	3.00	No
		z	-0.006	4.00	No
W30	25	2	-0.115	1.00	No
		2	-0.115	5.00	No
		2	-0.028	3.00	No
		2	-0.025	4.00	No
	26	2	-0.127	1.00	No
		2	-0.127	5.00	No
		2	-0.04	2.00	No
		2	-0.045	3.00	No
		2	-0.026	4.00	No
	27	2	-0.072	1.00	No
		2	-0.072	5.00	No
		2	-0.024	3.00	No
	35	2	-0.072	1.00	No
		2	-0.072	5.00	No
		2	-0.024	3.00	No
	37	2	-0.127	1.00	No
		2	-0.127	5.00	No
		2	-0.04	2.00	No
		2	-0.045	3.00	No
		2	-0.026	4.00	No
	39	2	-0.115	1.00	No
		2	-0.115	5.00	No
		2	-0.032	2.00	No
		2	-0.028	3.00	No
		2	-0.025	4.00	No
	41	x	-0.044	1.00	No
		x	-0.044	5.00	No
		x	-0.01	3.00	No
	43	x	-0.057	1.00	No
		x	-0.057	5.00	No
		x	-0.035	2.00	No
		x	-0.049	3.00	No
		x	-0.024	4.00	No
	45	x	-0.075	1.00	No
		x	-0.075	5.00	No
		x	-0.037	2.00	No
		x	-0.031	3.00	No
		x	-0.027	4.00	No
Di	25	y	-0.041	1.00	No
		y	-0.041	5.00	No
		y	-0.019	3.00	No
		y	-0.02	4.00	No
	26	y	-0.042	1.00	No
		y	-0.042	5.00	No
		y	-0.029	2.00	No
		y	-0.029	3.00	No
		y	-0.019	4.00	No
	27	y	-0.023	1.00	No
		y	-0.023	5.00	No
		y	-0.01	3.00	No
		y	-0.009	4.00	No
	35	y	-0.023	1.00	No
		y	-0.023	5.00	No
		y	-0.01	3.00	No

		y	-0.009	4.00	No
37		y	-0.042	1.00	No
		y	-0.042	5.00	No
		y	-0.029	2.00	No
		y	-0.029	3.00	No
		y	-0.019	4.00	No
39		y	-0.041	1.00	No
		y	-0.041	5.00	No
		y	-0.025	2.00	No
		y	-0.019	3.00	No
		y	-0.02	4.00	No
41		y	-0.023	1.00	No
		y	-0.023	5.00	No
		y	-0.01	3.00	No
		y	-0.009	4.00	No
43		y	-0.028	1.00	No
		y	-0.028	5.00	No
		y	-0.029	2.00	No
		y	-0.029	3.00	No
		y	-0.019	4.00	No
45		y	-0.032	1.00	No
		y	-0.032	5.00	No
		y	-0.025	2.00	No
		y	-0.019	3.00	No
		y	-0.02	4.00	No
W/O	25	z	-0.032	1.00	No
		z	-0.032	5.00	No
		z	-0.013	3.00	No
		z	-0.012	4.00	No
26		z	-0.03	1.00	No
		z	-0.03	5.00	No
		z	-0.015	2.00	No
		z	-0.019	3.00	No
		z	-0.011	4.00	No
27		z	-0.019	1.00	No
		z	-0.019	5.00	No
		z	-0.007	3.00	No
35		z	-0.019	1.00	No
		z	-0.019	5.00	No
		z	-0.007	3.00	No
37		z	-0.03	1.00	No
		z	-0.03	5.00	No
		z	-0.015	2.00	No
		z	-0.019	3.00	No
		z	-0.011	4.00	No
39		z	-0.032	1.00	No
		z	-0.032	5.00	No
		z	-0.014	2.00	No
		z	-0.013	3.00	No
		z	-0.012	4.00	No
41		z	-0.026	1.00	No
		z	-0.026	5.00	No
43		z	-0.028	1.00	No
		z	-0.028	5.00	No
		z	-0.012	2.00	No
		z	-0.03	3.00	No
		z	-0.007	4.00	No
45		z	-0.026	1.00	No
		z	-0.026	5.00	No
		z	-0.008	2.00	No

		z	-0.007	3.00	No
		z	-0.006	4.00	No
WI30	25	2	-0.035	1.00	No
		2	-0.035	5.00	No
		2	-0.01	3.00	No
		2	-0.009	4.00	No
	26	2	-0.038	1.00	No
		2	-0.038	5.00	No
		2	-0.013	2.00	No
		2	-0.015	3.00	No
		2	-0.01	4.00	No
	27	2	-0.023	1.00	No
		2	-0.023	5.00	No
		2	-0.01	3.00	No
	35	2	-0.023	1.00	No
		2	-0.023	5.00	No
		2	-0.01	3.00	No
	37	2	-0.038	1.00	No
		2	-0.038	5.00	No
		2	-0.013	2.00	No
		2	-0.015	3.00	No
		2	-0.01	4.00	No
	39	2	-0.035	1.00	No
		2	-0.035	5.00	No
		2	-0.011	2.00	No
		2	-0.01	3.00	No
		2	-0.009	4.00	No
	41	x	-0.017	1.00	No
		x	-0.017	5.00	No
		x	-0.006	3.00	No
	43	x	-0.02	1.00	No
		x	-0.02	5.00	No
		x	-0.014	2.00	No
		x	-0.018	3.00	No
		x	-0.01	4.00	No
	45	x	-0.024	1.00	No
		x	-0.024	5.00	No
		x	-0.014	2.00	No
		x	-0.012	3.00	No
		x	-0.011	4.00	No
WLO	25	z	-0.009	1.00	No
		z	-0.009	5.00	No
		z	-0.003	3.00	No
		z	-0.003	4.00	No
	26	z	-0.006	1.00	No
		z	-0.006	5.00	No
		z	-0.004	2.00	No
		z	-0.005	3.00	No
		z	-0.003	4.00	No
	27	z	-0.005	1.00	No
		z	-0.005	5.00	No
		z	-0.002	3.00	No
	35	z	-0.005	1.00	No
		z	-0.005	5.00	No
		z	-0.002	3.00	No
	37	z	-0.006	1.00	No
		z	-0.006	5.00	No
		z	-0.004	2.00	No
		z	-0.005	3.00	No
		z	-0.003	4.00	No

	39	z	-0.009	1.00	No
		z	-0.009	5.00	No
		z	-0.004	2.00	No
		z	-0.003	3.00	No
		z	-0.003	4.00	No
	41	z	-0.007	1.00	No
		z	-0.007	5.00	No
	43	z	-0.008	1.00	No
		z	-0.008	5.00	No
		z	-0.003	2.00	No
		z	-0.001	3.00	No
		z	-0.001	4.00	No
	45	z	-0.007	1.00	No
		z	-0.007	5.00	No
		z	-0.001	2.00	No
		z	-0.001	3.00	No
		z	-0.001	4.00	No
WL30	25	2	-0.01	1.00	No
		2	-0.01	5.00	No
		2	-0.003	3.00	No
		2	-0.003	4.00	No
	26	2	-0.011	1.00	No
		2	-0.011	5.00	No
		2	-0.004	2.00	No
		2	-0.004	3.00	No
		2	-0.003	4.00	No
	27	2	-0.006	1.00	No
		2	-0.006	5.00	No
		2	-0.002	3.00	No
	35	2	-0.006	1.00	No
		2	-0.006	5.00	No
		2	-0.002	3.00	No
	37	2	-0.011	1.00	No
		2	-0.011	5.00	No
		2	-0.004	2.00	No
		2	-0.004	3.00	No
		2	-0.003	4.00	No
	39	2	-0.01	1.00	No
		2	-0.01	5.00	No
		2	-0.003	2.00	No
		2	-0.003	3.00	No
		2	-0.003	4.00	No
	41	x	-0.004	1.00	No
		x	-0.004	5.00	No
		x	-0.001	3.00	No
	43	x	-0.005	1.00	No
		x	-0.005	5.00	No
		x	-0.003	2.00	No
		x	-0.005	3.00	No
		x	-0.002	4.00	No
	45	x	-0.007	1.00	No
		x	-0.007	5.00	No
		x	-0.003	2.00	No
		x	-0.003	3.00	No
		x	-0.003	4.00	No
LL1	18	y	-0.25	7.25	No
LL2	18	y	-0.25	14.50	No
LLa1	41	y	-0.50	3.00	No
LLa2	43	y	-0.50	3.00	No
LLa3	45	y	-0.50	3.00	No

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
DL	Dead Load	No	0.00	0.00	0.00
W0	Wind Load 0/60/120 deg	No	0.00	0.00	0.00
W30	Wind Load 30/90/150 deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
Wi0	Ice Wind Load 0/60/120 deg	No	0.00	0.00	0.00
Wi30	Ice Wind Load 30/90/150 deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0/60/120 deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30/90/150 deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load End of Mount	No	0.00	0.00	0.00
LLa1	500 lb Live Load on Antenna 1	No	0.00	0.00	0.00
LLa2	500 lb Live Load on Antenna 2	No	0.00	0.00	0.00
LLa3	500 lb Live Load on Antenna 3	No	0.00	0.00	0.00
LLa4	500 lb Live Load on Antenna 4	No	0.00	0.00	0.00
W180	-W0	Yes	0.00	0.00	0.00
W210	-W30	Yes	0.00	0.00	0.00
Wi180	-Wi0	Yes	0.00	0.00	0.00
Wi210	-Wi30	Yes	0.00	0.00	0.00
WL180	-WL0	Yes	0.00	0.00	0.00
WL210	-WL30	Yes	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
DL	0.00	0.00	0.00
W0	0.00	0.00	0.00
W30	0.00	0.00	0.00
Di	0.00	0.00	0.00
Wi0	0.00	0.00	0.00
Wi30	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
LLa1	0.00	0.00	0.00
LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00
LLa4	0.00	0.00	0.00
W180	0.00	0.00	0.00
W210	0.00	0.00	0.00
Wi180	0.00	0.00	0.00
Wi210	0.00	0.00	0.00
WL180	0.00	0.00	0.00
WL210	0.00	0.00	0.00



Current Date: 6/25/2018 11:37 AM

Units system: English

File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2198\3C-4C-5C-6C\Rev.1\CT2198 (3C-4C-5C-6C) (mod) (Rev.1).etzl

Steel Code Check

Report: Summary - For all selected load conditions

Load conditions to be included in design :

- LC1=1.2DL+1.6W0
- LC2=1.2DL+1.6W30
- LC3=1.2DL-1.6W0
- LC4=1.2DL-1.6W30
- LC5=0.9DL+1.6W0
- LC6=0.9DL+1.6W30
- LC7=0.9DL-1.6W0
- LC8=0.9DL-1.6W30
- LC9=1.2DL+Di+Wi0
- LC10=1.2DL+Di+Wi30
- LC11=1.2DL+Di-Wi0
- LC12=1.2DL+Di-Wi30
- LC13=1.2DL
- LC14=0.9DL
- LC15=1.2DL+1.6LL1
- LC16=1.2DL+1.6LL2
- LC17=1.2DL+WL0+LLa1
- LC18=1.2DL+WL30+LLa1
- LC19=1.2DL-WL0+LLa1
- LC20=1.2DL-WL30+LLa1
- LC21=1.2DL+WL0+LLa2
- LC22=1.2DL+WL30+LLa2
- LC23=1.2DL-WL0+LLa2
- LC24=1.2DL-WL30+LLa2
- LC25=1.2DL+WL0+LLa3
- LC26=1.2DL+WL30+LLa3
- LC27=1.2DL-WL0+LLa3
- LC28=1.2DL-WL30+LLa3
- LC29=1.2DL+WL0+LLa4
- LC30=1.2DL+WL30+LLa4
- LC31=1.2DL-WL0+LLa4
- LC32=1.2DL-WL30+LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	<i>HSS_SQR 4X4X1_4</i>	16	LC1 at 100.00%	0.22	OK	Eq. H1-1b
			LC10 at 100.00%	0.14	OK	
			LC11 at 0.00%	0.13	OK	
			LC12 at 0.00%	0.13	OK	
			LC13 at 100.00%	0.07	OK	
			LC14 at 100.00%	0.05	OK	
			LC15 at 0.00%	0.08	OK	
			LC16 at 100.00%	0.07	OK	
			LC17 at 0.00%	0.10	OK	
			LC18 at 0.00%	0.10	OK	
			LC19 at 0.00%	0.10	OK	
			LC2 at 100.00%	0.18	OK	
			LC20 at 0.00%	0.10	OK	
			LC21 at 0.00%	0.09	OK	
			LC22 at 0.00%	0.09	OK	
			LC23 at 0.00%	0.09	OK	

	LC24 at 0.00%	0.09	OK	
	LC25 at 0.00%	0.07	OK	
	LC26 at 0.00%	0.08	OK	
	LC27 at 0.00%	0.08	OK	
	LC28 at 0.00%	0.07	OK	
	LC29 at 100.00%	0.07	OK	
	LC3 at 0.00%	0.14	OK	
	LC30 at 100.00%	0.08	OK	
	LC31 at 0.00%	0.07	OK	
	LC32 at 0.00%	0.07	OK	
	LC4 at 0.00%	0.23	OK	Eq. H1-1b
	LC5 at 100.00%	0.21	OK	
	LC6 at 100.00%	0.17	OK	
	LC7 at 0.00%	0.12	OK	
	LC8 at 0.00%	0.22	OK	
	LC9 at 100.00%	0.14	OK	
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17	LC1 at 100.00%	0.24	OK	Eq. H1-1b
	LC10 at 0.00%	0.13	OK	
	LC11 at 0.00%	0.13	OK	
	LC12 at 100.00%	0.14	OK	
	LC13 at 100.00%	0.08	OK	
	LC14 at 100.00%	0.06	OK	
	LC15 at 0.00%	0.08	OK	
	LC16 at 0.00%	0.10	OK	
	LC17 at 100.00%	0.07	OK	
	LC18 at 0.00%	0.07	OK	
	LC19 at 0.00%	0.08	OK	
	LC2 at 0.00%	0.24	OK	Eq. H1-1b
	LC20 at 100.00%	0.08	OK	
	LC21 at 0.00%	0.08	OK	
	LC22 at 0.00%	0.09	OK	
	LC23 at 0.00%	0.09	OK	
	LC24 at 0.00%	0.09	OK	
	LC25 at 0.00%	0.10	OK	
	LC26 at 0.00%	0.10	OK	
	LC27 at 0.00%	0.11	OK	
	LC28 at 0.00%	0.10	OK	
	LC29 at 100.00%	0.08	OK	
	LC3 at 0.00%	0.13	OK	
	LC30 at 100.00%	0.07	OK	
	LC31 at 100.00%	0.08	OK	
	LC32 at 100.00%	0.08	OK	
	LC4 at 100.00%	0.19	OK	
	LC5 at 100.00%	0.22	OK	
	LC6 at 0.00%	0.22	OK	
	LC7 at 0.00%	0.11	OK	
	LC8 at 100.00%	0.17	OK	
	LC9 at 100.00%	0.14	OK	
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18	LC1 at 0.00%	0.15	OK	
	LC10 at 100.00%	0.13	OK	
	LC11 at 100.00%	0.12	OK	
	LC12 at 0.00%	0.12	OK	
	LC13 at 100.00%	0.07	OK	
	LC14 at 100.00%	0.05	OK	
	LC15 at 100.00%	0.11	OK	
	LC16 at 100.00%	0.10	OK	
	LC17 at 0.00%	0.12	OK	
	LC18 at 0.00%	0.12	OK	
	LC19 at 0.00%	0.12	OK	
	LC2 at 100.00%	0.21	OK	Eq. H1-1b
	LC20 at 0.00%	0.12	OK	
	LC21 at 0.00%	0.12	OK	

LC22 at 0.00%	0.12	OK
LC23 at 0.00%	0.11	OK
LC24 at 0.00%	0.12	OK
LC25 at 100.00%	0.13	OK
LC26 at 100.00%	0.13	OK
LC27 at 100.00%	0.12	OK
LC28 at 100.00%	0.13	OK
LC29 at 100.00%	0.07	OK
LC3 at 0.00%	0.18	OK
LC30 at 100.00%	0.07	OK
LC31 at 100.00%	0.07	OK
LC32 at 100.00%	0.07	OK
LC4 at 0.00%	0.19	OK
LC5 at 0.00%	0.13	OK
LC6 at 100.00%	0.19	OK
LC7 at 0.00%	0.16	OK
LC8 at 0.00%	0.18	OK
LC9 at 100.00%	0.13	OK

Eq. H1-1b

19

LC1 at 100.00%	0.18	OK
LC10 at 0.00%	0.22	OK
LC11 at 0.00%	0.29	OK
LC12 at 0.00%	0.29	OK
LC13 at 0.00%	0.15	OK
LC14 at 0.00%	0.11	OK
LC15 at 0.00%	0.21	OK
LC16 at 0.00%	0.14	OK
LC17 at 0.00%	0.29	OK
LC18 at 0.00%	0.28	OK
LC19 at 0.00%	0.30	OK
LC2 at 81.25%	0.08	OK
LC20 at 0.00%	0.30	OK
LC21 at 0.00%	0.23	OK
LC22 at 0.00%	0.22	OK
LC23 at 0.00%	0.24	OK
LC24 at 0.00%	0.24	OK
LC25 at 0.00%	0.15	OK
LC26 at 0.00%	0.15	OK
LC27 at 0.00%	0.16	OK
LC28 at 0.00%	0.17	OK
LC29 at 0.00%	0.15	OK
LC3 at 0.00%	0.34	OK
LC30 at 0.00%	0.14	OK
LC31 at 0.00%	0.16	OK
LC32 at 0.00%	0.16	OK
LC4 at 0.00%	0.37	OK
LC5 at 100.00%	0.16	OK
LC6 at 0.00%	0.10	OK
LC7 at 0.00%	0.30	OK
LC8 at 0.00%	0.34	OK
LC9 at 0.00%	0.25	OK

Eq. H1-1b

20

LC1 at 0.00%	0.42	OK
LC10 at 0.00%	0.30	OK
LC11 at 0.00%	0.25	OK
LC12 at 0.00%	0.30	OK
LC13 at 0.00%	0.17	OK
LC14 at 0.00%	0.13	OK
LC15 at 0.00%	0.16	OK
LC16 at 0.00%	0.16	OK
LC17 at 0.00%	0.16	OK
LC18 at 0.00%	0.16	OK
LC19 at 0.00%	0.14	OK
LC2 at 0.00%	0.30	OK

Eq. H1-1b

LC20 at 0.00%	0.16	OK
LC21 at 0.00%	0.16	OK
LC22 at 0.00%	0.16	OK
LC23 at 0.00%	0.14	OK
LC24 at 0.00%	0.16	OK
LC25 at 0.00%	0.16	OK
LC26 at 0.00%	0.16	OK
LC27 at 0.00%	0.14	OK
LC28 at 0.00%	0.16	OK
LC29 at 0.00%	0.18	OK
LC3 at 0.00%	0.06	OK
LC30 at 0.00%	0.18	OK
LC31 at 0.00%	0.16	OK
LC32 at 0.00%	0.18	OK
LC4 at 0.00%	0.30	OK
LC5 at 0.00%	0.37	OK
LC6 at 100.00%	0.26	OK
LC7 at 0.00%	0.10	OK
LC8 at 100.00%	0.27	OK
LC9 at 0.00%	0.33	OK

21

LC1 at 0.00%	0.18	OK
LC10 at 100.00%	0.31	OK
LC11 at 100.00%	0.30	OK
LC12 at 100.00%	0.24	OK
LC13 at 100.00%	0.16	OK
LC14 at 100.00%	0.12	OK
LC15 at 100.00%	0.22	OK
LC16 at 100.00%	0.30	OK
LC17 at 100.00%	0.17	OK
LC18 at 100.00%	0.18	OK
LC19 at 100.00%	0.18	OK
LC2 at 100.00%	0.39	OK
LC20 at 100.00%	0.16	OK
LC21 at 100.00%	0.21	OK
LC22 at 100.00%	0.23	OK
LC23 at 100.00%	0.22	OK
LC24 at 100.00%	0.21	OK
LC25 at 100.00%	0.30	OK
LC26 at 100.00%	0.31	OK
LC27 at 100.00%	0.31	OK
LC28 at 100.00%	0.30	OK
LC29 at 100.00%	0.16	OK
LC3 at 100.00%	0.33	OK
LC30 at 100.00%	0.17	OK
LC31 at 100.00%	0.17	OK
LC32 at 100.00%	0.15	OK
LC4 at 0.00%	0.10	OK
LC5 at 0.00%	0.15	OK
LC6 at 100.00%	0.34	OK
LC7 at 100.00%	0.29	OK
LC8 at 100.00%	0.09	OK
LC9 at 100.00%	0.26	OK

Eq. H1-1b

Eq. H1-1b

PIPE 2x0.154

25

LC1 at 81.25%	0.32	OK
LC10 at 81.25%	0.11	OK
LC11 at 81.25%	0.13	OK
LC12 at 81.25%	0.05	OK
LC13 at 81.25%	0.04	OK
LC14 at 81.25%	0.03	OK
LC15 at 81.25%	0.04	OK
LC16 at 81.25%	0.06	OK
LC17 at 81.25%	0.10	OK
LC18 at 81.25%	0.10	OK

LC19 at 81.25%	0.07	OK	
LC2 at 81.25%	0.35	OK	Eq. H1-1b
LC20 at 81.25%	0.07	OK	
LC21 at 81.25%	0.07	OK	
LC22 at 81.25%	0.07	OK	
LC23 at 81.25%	0.05	OK	
LC24 at 81.25%	0.04	OK	
LC25 at 81.25%	0.05	OK	
LC26 at 81.25%	0.06	OK	
LC27 at 81.25%	0.07	OK	
LC28 at 81.25%	0.05	OK	
LC29 at 81.25%	0.04	OK	
LC3 at 81.25%	0.33	OK	
LC30 at 81.25%	0.05	OK	
LC31 at 81.25%	0.05	OK	
LC32 at 81.25%	0.03	OK	
LC4 at 81.25%	0.29	OK	
LC5 at 81.25%	0.31	OK	
LC6 at 81.25%	0.34	OK	
LC7 at 81.25%	0.32	OK	
LC8 at 81.25%	0.30	OK	
LC9 at 81.25%	0.10	OK	

26

LC1 at 81.25%	0.39	OK	
LC10 at 81.25%	0.10	OK	Eq. H1-1b
LC11 at 81.25%	0.10	OK	
LC12 at 81.25%	0.05	OK	
LC13 at 81.25%	0.02	OK	
LC14 at 81.25%	0.01	OK	
LC15 at 81.25%	0.02	OK	
LC16 at 81.25%	0.02	OK	
LC17 at 81.25%	0.02	OK	
LC18 at 81.25%	0.05	OK	
LC19 at 81.25%	0.05	OK	
LC2 at 81.25%	0.41	OK	Eq. H1-1b
LC20 at 81.25%	0.03	OK	
LC21 at 81.25%	0.02	OK	
LC22 at 81.25%	0.04	OK	
LC23 at 81.25%	0.04	OK	
LC24 at 81.25%	0.03	OK	
LC25 at 81.25%	0.02	OK	
LC26 at 81.25%	0.04	OK	
LC27 at 81.25%	0.04	OK	
LC28 at 33.33%	0.02	OK	
LC29 at 81.25%	0.03	OK	
LC3 at 81.25%	0.37	OK	
LC30 at 81.25%	0.04	OK	
LC31 at 81.25%	0.04	OK	
LC32 at 81.25%	0.01	OK	
LC4 at 81.25%	0.38	OK	
LC5 at 81.25%	0.38	OK	
LC6 at 81.25%	0.40	OK	
LC7 at 81.25%	0.37	OK	
LC8 at 81.25%	0.38	OK	
LC9 at 81.25%	0.09	OK	

27

LC1 at 81.25%	0.29	OK	
LC10 at 81.25%	0.12	OK	
LC11 at 81.25%	0.11	OK	
LC12 at 81.25%	0.06	OK	
LC13 at 81.25%	0.05	OK	
LC14 at 81.25%	0.04	OK	
LC15 at 81.25%	0.05	OK	
LC16 at 81.25%	0.07	OK	

LC17 at 81.25%	0.05	OK
LC18 at 81.25%	0.07	OK
LC19 at 81.25%	0.07	OK
LC2 at 81.25%	0.31	OK
LC20 at 81.25%	0.07	OK
LC21 at 81.25%	0.05	OK
LC22 at 81.25%	0.07	OK
LC23 at 81.25%	0.06	OK
LC24 at 81.25%	0.05	OK
LC25 at 81.25%	0.06	OK
LC26 at 81.25%	0.08	OK
LC27 at 81.25%	0.07	OK
LC28 at 81.25%	0.06	OK
LC29 at 81.25%	0.04	OK
LC3 at 81.25%	0.30	OK
LC30 at 81.25%	0.06	OK
LC31 at 81.25%	0.05	OK
LC32 at 81.25%	0.03	OK
LC4 at 81.25%	0.27	OK
LC5 at 81.25%	0.29	OK
LC6 at 81.25%	0.30	OK
LC7 at 81.25%	0.30	OK
LC8 at 81.25%	0.27	OK
LC9 at 81.25%	0.05	OK

Eq. H1-1b

35

LC1 at 81.25%	0.29	OK
LC10 at 81.25%	0.04	OK
LC11 at 81.25%	0.11	OK
LC12 at 81.25%	0.09	OK
LC13 at 81.25%	0.03	OK
LC14 at 81.25%	0.03	OK
LC15 at 81.25%	0.03	OK
LC16 at 81.25%	0.09	OK
LC17 at 81.25%	0.04	OK
LC18 at 81.25%	0.04	OK
LC19 at 81.25%	0.06	OK
LC2 at 81.25%	0.27	OK
LC20 at 81.25%	0.05	OK
LC21 at 81.25%	0.05	OK
LC22 at 81.25%	0.02	OK
LC23 at 81.25%	0.04	OK
LC24 at 81.25%	0.05	OK
LC25 at 81.25%	0.09	OK
LC26 at 81.25%	0.06	OK
LC27 at 81.25%	0.06	OK
LC28 at 81.25%	0.09	OK
LC29 at 81.25%	0.04	OK
LC3 at 81.25%	0.28	OK
LC30 at 81.25%	0.03	OK
LC31 at 81.25%	0.04	OK
LC32 at 81.25%	0.04	OK
LC4 at 81.25%	0.32	OK
LC5 at 81.25%	0.28	OK
LC6 at 81.25%	0.28	OK
LC7 at 81.25%	0.27	OK
LC8 at 81.25%	0.31	OK
LC9 at 81.25%	0.08	OK

Eq. H1-1b

Eq. H1-1b

37

LC1 at 81.25%	0.35	OK
LC10 at 81.25%	0.07	OK
LC11 at 81.25%	0.11	OK
LC12 at 81.25%	0.10	OK
LC13 at 81.25%	0.03	OK
LC14 at 81.25%	0.02	OK

LC15 at 81.25%	0.03	OK
LC16 at 81.25%	0.03	OK
LC17 at 50.00%	0.01	OK
LC18 at 81.25%	0.04	OK
LC19 at 81.25%	0.05	OK
LC2 at 81.25%	0.41	OK
LC20 at 81.25%	0.04	OK
LC21 at 66.67%	0.01	OK
LC22 at 81.25%	0.04	OK
LC23 at 81.25%	0.05	OK
LC24 at 81.25%	0.05	OK
LC25 at 66.67%	0.02	OK
LC26 at 81.25%	0.04	OK
LC27 at 81.25%	0.05	OK
LC28 at 81.25%	0.05	OK
LC29 at 81.25%	0.01	OK
LC3 at 81.25%	0.37	OK
LC30 at 81.25%	0.03	OK
LC31 at 81.25%	0.04	OK
LC32 at 81.25%	0.04	OK
LC4 at 81.25%	0.40	OK
LC5 at 81.25%	0.35	OK
LC6 at 81.25%	0.41	OK
LC7 at 81.25%	0.37	OK
LC8 at 81.25%	0.40	OK
LC9 at 81.25%	0.07	OK

Eq. H1-1b

39

LC1 at 81.25%	0.32	OK
LC10 at 81.25%	0.06	OK
LC11 at 81.25%	0.14	OK
LC12 at 81.25%	0.14	OK
LC13 at 81.25%	0.06	OK
LC14 at 81.25%	0.05	OK
LC15 at 81.25%	0.07	OK
LC16 at 81.25%	0.07	OK
LC17 at 81.25%	0.06	OK
LC18 at 81.25%	0.07	OK
LC19 at 81.25%	0.09	OK
LC2 at 81.25%	0.29	OK
LC20 at 81.25%	0.09	OK
LC21 at 81.25%	0.06	OK
LC22 at 81.25%	0.06	OK
LC23 at 81.25%	0.08	OK
LC24 at 81.25%	0.09	OK
LC25 at 81.25%	0.06	OK
LC26 at 81.25%	0.07	OK
LC27 at 81.25%	0.08	OK
LC28 at 81.25%	0.08	OK
LC29 at 81.25%	0.04	OK
LC3 at 81.25%	0.31	OK
LC30 at 81.25%	0.05	OK
LC31 at 81.25%	0.07	OK
LC32 at 81.25%	0.07	OK
LC4 at 81.25%	0.36	OK
LC5 at 81.25%	0.31	OK
LC6 at 81.25%	0.29	OK
LC7 at 81.25%	0.31	OK
LC8 at 81.25%	0.34	OK
LC9 at 81.25%	0.06	OK

Eq. H1-1b

41

LC1 at 81.25%	0.25	OK
LC10 at 81.25%	0.11	OK
LC11 at 81.25%	0.03	OK
LC12 at 81.25%	0.08	OK

LC13 at 81.25%	0.04	OK
LC14 at 81.25%	0.03	OK
LC15 at 81.25%	0.07	OK
LC16 at 81.25%	0.06	OK
LC17 at 81.25%	0.09	OK
LC18 at 81.25%	0.09	OK
LC19 at 81.25%	0.07	OK
LC2 at 81.25%	0.26	OK
LC20 at 81.25%	0.08	OK
LC21 at 81.25%	0.10	OK
LC22 at 81.25%	0.08	OK
LC23 at 81.25%	0.08	OK
LC24 at 81.25%	0.10	OK
LC25 at 81.25%	0.05	OK
LC26 at 81.25%	0.05	OK
LC27 at 81.25%	0.03	OK
LC28 at 81.25%	0.04	OK
LC29 at 81.25%	0.05	OK
LC3 at 81.25%	0.18	OK
LC30 at 81.25%	0.05	OK
LC31 at 81.25%	0.03	OK
LC32 at 81.25%	0.03	OK
LC4 at 81.25%	0.30	OK
LC5 at 81.25%	0.24	OK
LC6 at 81.25%	0.26	OK
LC7 at 81.25%	0.18	OK
LC8 at 81.25%	0.29	OK
LC9 at 81.25%	0.11	OK

Eq. H1-1b

43

LC1 at 81.25%	0.29	OK
LC10 at 81.25%	0.08	OK
LC11 at 81.25%	0.05	OK
LC12 at 81.25%	0.09	OK
LC13 at 81.25%	0.02	OK
LC14 at 81.25%	0.02	OK
LC15 at 81.25%	0.03	OK
LC16 at 81.25%	0.02	OK
LC17 at 81.25%	0.05	OK
LC18 at 81.25%	0.04	OK
LC19 at 33.33%	0.02	OK
LC2 at 81.25%	0.36	OK
LC20 at 81.25%	0.02	OK
LC21 at 81.25%	0.06	OK
LC22 at 81.25%	0.04	OK
LC23 at 66.67%	0.03	OK
LC24 at 81.25%	0.05	OK
LC25 at 81.25%	0.06	OK
LC26 at 81.25%	0.03	OK
LC27 at 33.33%	0.03	OK
LC28 at 81.25%	0.06	OK
LC29 at 81.25%	0.04	OK
LC3 at 81.25%	0.25	OK
LC30 at 81.25%	0.02	OK
LC31 at 33.33%	0.01	OK
LC32 at 81.25%	0.03	OK
LC4 at 81.25%	0.39	OK
LC5 at 81.25%	0.28	OK
LC6 at 81.25%	0.36	OK
LC7 at 81.25%	0.26	OK
LC8 at 81.25%	0.38	OK
LC9 at 81.25%	0.10	OK

Eq. H1-1b

45

LC1 at 81.25%	0.26	OK
LC10 at 81.25%	0.10	OK

LC11 at 81.25%	0.04	OK	
LC12 at 81.25%	0.13	OK	
LC13 at 81.25%	0.05	OK	
LC14 at 81.25%	0.04	OK	
LC15 at 81.25%	0.09	OK	
LC16 at 81.25%	0.11	OK	
LC17 at 81.25%	0.06	OK	
LC18 at 81.25%	0.05	OK	
LC19 at 81.25%	0.04	OK	
LC2 at 81.25%	0.34	OK	Eq. H1-1b
LC20 at 81.25%	0.06	OK	
LC21 at 81.25%	0.11	OK	
LC22 at 81.25%	0.12	OK	
LC23 at 81.25%	0.09	OK	
LC24 at 81.25%	0.09	OK	
LC25 at 81.25%	0.10	OK	
LC26 at 81.25%	0.09	OK	
LC27 at 81.25%	0.08	OK	
LC28 at 81.25%	0.10	OK	
LC29 at 81.25%	0.06	OK	
LC3 at 81.25%	0.18	OK	
LC30 at 81.25%	0.04	OK	
LC31 at 81.25%	0.04	OK	
LC32 at 81.25%	0.06	OK	
LC4 at 81.25%	0.29	OK	Eq. H1-1b
LC5 at 81.25%	0.25	OK	
LC6 at 81.25%	0.33	OK	
LC7 at 81.25%	0.19	OK	
LC8 at 81.25%	0.29	OK	
LC9 at 81.25%	0.13	OK	

55

LC1 at 100.00%	0.17	OK	
LC10 at 0.00%	0.09	OK	
LC11 at 100.00%	0.08	OK	
LC12 at 100.00%	0.08	OK	
LC13 at 0.00%	0.03	OK	
LC14 at 0.00%	0.02	OK	
LC15 at 57.81%	0.05	OK	
LC16 at 0.00%	0.04	OK	
LC17 at 100.00%	0.05	OK	
LC18 at 84.38%	0.05	OK	
LC19 at 84.38%	0.04	OK	
LC2 at 0.00%	0.30	OK	Eq. H1-1b
LC20 at 100.00%	0.06	OK	
LC21 at 57.81%	0.05	OK	
LC22 at 56.25%	0.06	OK	
LC23 at 57.81%	0.06	OK	
LC24 at 57.81%	0.07	OK	
LC25 at 0.00%	0.05	OK	
LC26 at 0.00%	0.06	OK	
LC27 at 15.63%	0.05	OK	
LC28 at 15.63%	0.05	OK	
LC29 at 0.00%	0.03	OK	
LC3 at 100.00%	0.22	OK	
LC30 at 0.00%	0.04	OK	
LC31 at 100.00%	0.03	OK	
LC32 at 100.00%	0.04	OK	
LC4 at 100.00%	0.30	OK	Eq. H1-1b
LC5 at 100.00%	0.17	OK	
LC6 at 0.00%	0.29	OK	
LC7 at 100.00%	0.22	OK	
LC8 at 100.00%	0.29	OK	
LC9 at 0.00%	0.06	OK	

56	LC1 at 82.81%	0.26	OK	Eq. H1-1b	
	LC10 at 100.00%	0.08	OK		
	LC11 at 0.00%	0.08	OK		
	LC12 at 0.00%	0.08	OK		
	LC13 at 100.00%	0.03	OK		
	LC14 at 100.00%	0.02	OK		
	LC15 at 0.00%	0.03	OK		
	LC16 at 0.00%	0.04	OK		
	LC17 at 0.00%	0.05	OK		
	LC18 at 0.00%	0.03	OK		
	LC19 at 0.00%	0.04	OK		
	LC2 at 56.25%	0.28	OK		
	LC20 at 0.00%	0.06	OK		
	LC21 at 0.00%	0.05	OK		
	LC22 at 100.00%	0.03	OK		
	LC23 at 0.00%	0.04	OK		
	LC24 at 0.00%	0.05	OK		
	LC25 at 100.00%	0.04	OK		
	LC26 at 100.00%	0.04	OK		
	LC27 at 0.00%	0.05	OK		
	LC28 at 0.00%	0.04	OK		
	LC29 at 100.00%	0.03	OK		
	LC3 at 82.81%	0.26	OK		
	LC30 at 100.00%	0.03	OK		
	LC31 at 0.00%	0.04	OK		
	LC32 at 100.00%	0.04	OK		
	LC4 at 56.25%	0.28	OK		
	LC5 at 82.81%	0.26	OK		
	LC6 at 56.25%	0.28	OK		
	LC7 at 82.81%	0.26	OK		
	LC8 at 56.25%	0.28	OK		Eq. H1-1b
	LC9 at 100.00%	0.07	OK		

57	LC1 at 56.25%	0.24	OK	Eq. H1-1b	
	LC10 at 100.00%	0.08	OK		
	LC11 at 100.00%	0.08	OK		
	LC12 at 0.00%	0.08	OK		
	LC13 at 0.00%	0.03	OK		
	LC14 at 0.00%	0.02	OK		
	LC15 at 100.00%	0.04	OK		
	LC16 at 100.00%	0.04	OK		
	LC17 at 0.00%	0.04	OK		
	LC18 at 100.00%	0.04	OK		
	LC19 at 100.00%	0.04	OK		
	LC2 at 57.81%	0.30	OK		Eq. H1-1b
	LC20 at 0.00%	0.04	OK		
	LC21 at 100.00%	0.05	OK		
	LC22 at 100.00%	0.05	OK		
	LC23 at 100.00%	0.04	OK		
	LC24 at 0.00%	0.04	OK		
	LC25 at 100.00%	0.05	OK		
	LC26 at 100.00%	0.06	OK		
	LC27 at 100.00%	0.05	OK		
	LC28 at 100.00%	0.04	OK		
	LC29 at 0.00%	0.04	OK		
	LC3 at 56.25%	0.24	OK		
	LC30 at 100.00%	0.04	OK		
	LC31 at 100.00%	0.03	OK		
	LC32 at 0.00%	0.04	OK		
	LC4 at 57.81%	0.28	OK		
	LC5 at 56.25%	0.24	OK		
	LC6 at 57.81%	0.30	OK		
	LC7 at 56.25%	0.24	OK		Eq. H1-1b
	LC8 at 57.81%	0.28	OK		

Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
4	-1.083	0.00	0.625	0
5	1.083	0.00	0.625	0
6	0.00	0.00	-1.25	0
27	-0.0001	0.00	-8.5158	0
28	7.3749	0.00	4.258	0
31	-7.375	0.00	4.2578	0
38	3.3606	-1.00	-3.0949	0
39	1.3606	-1.00	-6.559	0
40	6.3606	-1.00	2.1012	0
41	3.3606	5.00	-3.0949	0
42	1.3606	5.00	-6.559	0
43	6.3606	5.00	2.1012	0
58	-6.3606	-1.00	2.1012	0
59	-6.3606	5.00	2.1012	0
62	-4.3606	-1.00	-1.3629	0
63	-4.3606	5.00	-1.3629	0
66	-1.3606	-1.00	-6.559	0
67	-1.3606	5.00	-6.559	0
70	5.00	-1.00	4.4578	0
71	5.00	5.00	4.4578	0
74	1.00	-1.00	4.4578	0

75	1.00	5.00	4.4578	0
78	-5.00	-1.00	4.4578	0
79	-5.00	5.00	4.4578	0
80	-7.375	3.00	4.2578	0
87	7.3749	3.00	4.258	0
94	-0.0001	3.00	-8.5158	0

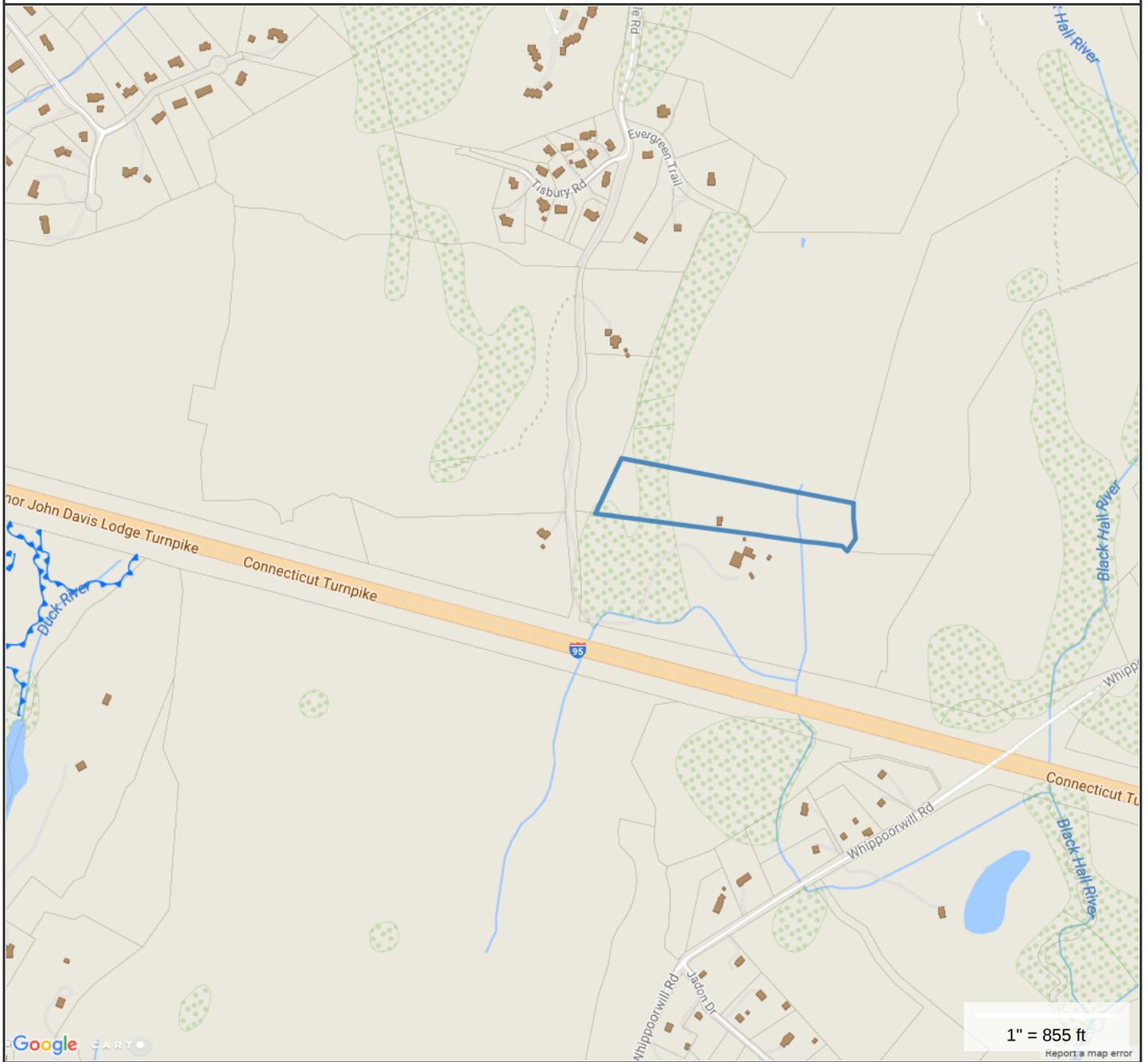
Restraints

Node	TX	TY	TZ	RX	RY	RZ
4	1	1	1	1	1	1
5	1	1	1	1	1	1
6	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
16	28	27		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
17	31	27		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
18	28	31		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
19	5	28		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
20	6	27		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
21	31	4		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
25	43	40		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
26	41	38		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
27	42	39		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
35	59	58		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
37	63	62		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
39	67	66		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
41	71	70		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
43	75	74		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
45	79	78		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
55	80	87		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
56	87	94		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
57	94	80		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

62 - 1 BOGGY HOLE ROAD



Property Information

Property ID 22-74
 Location 62-1 BOGGY HOLE RD
 Owner SANDERS MICHAEL W



**MAP FOR REFERENCE ONLY
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Parcels updated 10/1/2016
 Properties updated 04/26/2018

62-1 BOGGY HOLE RD

Location 62-1 BOGGY HOLE RD

Mblu 22 / / 74 / /

Acct# 00113800

Owner SANDERS MICHAEL W

Assessment \$28,000

Appraisal \$40,000

PID 1293

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2014	\$0	\$40,000	\$40,000

Assessment			
Valuation Year	Improvements	Land	Total
2014	\$0	\$28,000	\$28,000

Owner of Record

Owner SANDERS MICHAEL W
Co-Owner
Address 72 BOGGY HOLE RD
 OLD LYME, CT 06371

Sale Price \$75,000
Certificate
Book & Page 280 / 675
Sale Date 03/01/2002

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
SANDERS MICHAEL W	\$75,000		280 / 675	03/01/2002
MACHNIK JOSEPH E	\$0		146 / 481	

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: \$0
Building Percent Good:
Replacement Cost Less Depreciation: \$0

Building Photo

Building Attributes	
Field	Description
Style	Vacant Land

Model	
Grade:	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	



(<http://images.vgsi.com/photos/OldLymeCTPhotos//default.jpg>)

Building Layout

Building Layout

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code 1300
Description RES ACLNDV MDL-00
Zone RU80
Neighborhood 0050
Alt Land Appr Category No

Land Line Valuation

Size (Acres) 10
Frontage 0
Depth 0
Assessed Value \$28,000
Appraised Value \$40,000

Outbuildings

Outbuildings	Legend
No Data for Outbuildings	

Valuation History

--

Appraisal			
Valuation Year	Improvements	Land	Total
2011	\$0	\$40,000	\$40,000
2010	\$0	\$40,000	\$40,000
2009	\$0	\$40,000	\$40,000

Assessment			
Valuation Year	Improvements	Land	Total
2011	\$0	\$28,000	\$28,000
2010	\$0	\$28,000	\$28,000
2009	\$0	\$28,000	\$28,000

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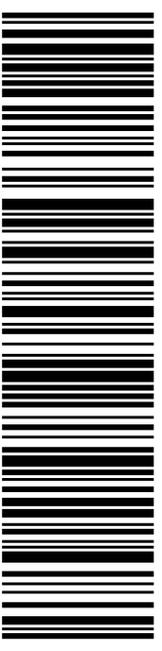
Expected Delivery Date: 09/10/18

MARK J ROBERTS
 QC DEVELOPMENT
 PO BOX 916
 STORRS CT 06268-0916

0024

SHIP TO: BONNIE REEMSNYDER
 TOWN OF OLD LYME
 52 LYME ST
 OLD LYME CT 06371-2331

USPS TRACKING #



9405 8036 9930 0690 1425 92

Electronic Rate Approved #038555749



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3. Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
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 9405 8036 9930 0690 1425 92**

Trans. #:	443583098	Priority Mail® Postage:	\$6.70
Print Date:	09/07/2018	Insurance Fee	\$0.00
Ship Date:	09/08/2018	Total	\$6.70
Expected Delivery Date:	09/10/2018		
Insured Value:	\$50.00		

From: MARK J ROBERTS
 QC DEVELOPMENT
 PO BOX 916
 STORRS CT 06268-0916

To: BONNIE REEMSNYDER
 TOWN OF OLD LYME
 52 LYME ST
 OLD LYME CT 06371-2331

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Expected Delivery Date: 09/10/18

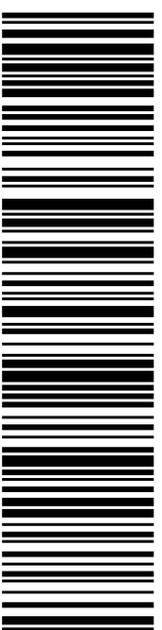
MARK J ROBERTS
 QC DEVELOPMENT
 PO BOX 916
 STORRS CT 06268-0916

0024

R006

SHIP TO:
 MICHAEL W SANDERS
 72 BOGGY HOLE RD
 OLD LYME CT 06371-1404

USPS TRACKING #



9405 8036 9930 0690 1426 08

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Click-N-Ship® Label Record

**USPS TRACKING # / Insurance Number:
 9405 8036 9930 0690 1426 08**

Trans. #:	443583098	Priority Mail® Postage:	\$6.70
Print Date:	09/07/2018	Insurance Fee	\$0.00
Ship Date:	09/08/2018	Total	\$6.70
Expected Delivery Date:	09/10/2018		
Insured Value:	\$50.00		

From: MARK J ROBERTS
 QC DEVELOPMENT
 PO BOX 916
 STORRS CT 06268-0916

To: MICHAEL W SANDERS
 72 BOGGY HOLE RD
 OLD LYME CT 06371-1404

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PRIORITY MAIL 1-DAY™

Expected Delivery Date: 09/10/18

MARK J ROBERTS
 QC DEVELOPMENT
 PO BOX 916
 STORRS CT 06268-0916

0024

B004

SHIP TO: KEN THOMAS
 WIRELESS SOLUTIONS
 PO BOX 374
 UNCASVILLE CT 06382-0374

USPS TRACKING #



9405 8036 9930 0690 1426 15

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5. Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

**USPS TRACKING # / Insurance Number:
 9405 8036 9930 0690 1426 15**

Trans. #:	443583098	Priority Mail® Postage:	\$6.70
Print Date:	09/07/2018	Insurance Fee	\$0.00
Ship Date:	09/08/2018	Total	\$6.70
Expected Delivery Date:	09/10/2018		
Insured Value:	\$50.00		

From: MARK J ROBERTS
 QC DEVELOPMENT
 PO BOX 916
 STORRS CT 06268-0916

To: KEN THOMAS
 WIRELESS SOLUTIONS
 PO BOX 374
 UNCASVILLE CT 06382-0374

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